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ENERGY EFFICIENCY: COMPLEMENTARY POLICIES FOR CLIMATE LEGISLATION

TUESDAY, FEBRUARY 24, 2009

House of Representatives,

Subcommittee on Energy and Environment,

Committee on Energy and Commerce,

Washington, D.C.

The subcommittee met, pursuant to call, at 9:38 a.m., in Room 2322, Rayburn House Office Building, Hon. Edward J. Markey [chairman of the subcommittee] presiding.

Present: Representatives Markey, Inslee, Butterfield, Matsui, Welch, Green, Capps, Gonzalez, Baldwin, Matheson, Barrow, Waxman, Upton, Hall, Stearns, Shimkus, Blunt, Pitts, Walden, Burgess, Scalise, Barton and Blackburn.

Staff Present: John Jimison, Senior Counsel, Energy; Melissa Bez, Professional Staff; Joel Beauvais, Counsel; Matt Weiner,

Legislative Clerk; Lindsay Vidal, Press Assistant; Greg Dotson, Chief Counsel, Environment and Energy; Andrea Spring, Professional Staff; Amanda Mertens Campbell, Counsel; and Peter Kielty, Legislative Analyst.

Mr. Markey. Good morning.

When we look at the energy and climate solutions toolbox, we tend to focus on exciting, new technologies like high-powered wind turbines and thin-filmed solar cells or carbon capture and sequestration. Today's hearing is about the less-eye-catching but equally important solutions that improve energy efficiency, better building and appliance standards, energy efficiency resource standards, demand side management programs and a host of other policies and technologies that enable us to use energy more intelligently.

The Department of Energy estimates that U.S. electricity demand will grow by 30 percent by 2030. There are two ways to meet these rising demand, megawatts and negawatts. The first approach is familiar to us, simply building more power plants. The second uses efficiency measures to do more with less. It is based on the reality that the cheapest and cleanest power plant is the one we never have to build. Efficiency costs us as little as one-third per kilowatt hour of the cost of new electricity supply and emits no carbon.

Energy efficiency will also play a critical role in avoiding an excessive dash to natural gas, which many fear could damage the competitiveness of U.S. manufacturing. A recent study by McKenzie & Company concluded that in 2030 efficiency measures can cut U.S. global warming pollution by nearly 15 percent of current levels at

a profit.

The 10 northeastern States participating in the RGGI, Regional Greenhouse Gas Initiative, a cap and auction trade system, have found that by auctioning 100 percent of the pollution allowances and investing the proceeds in efficiency measures, they can achieve their climate goals at virtually no additional cost to consumers.

Climate legislation can provide the resources to make efficiency policies work, while efficiency cuts pollution at the lowest possible costs. These solutions help us to work smarter and not harder.

Investing in efficiency is not just a cost-effective energy and climate solution. It will also pay major dividends in new jobs and economic growth. America's efficiency industry already produces close to a trillion dollars in annual revenues. By putting America in the vanguard of the efficiency revolution, we can create high-quality green jobs at home, while exporting high-quality green technology to the world.

Unfortunately, increasing America's energy efficiency is not as straightforward it as may seem. As we will hear from our witnesses, many efficiency improvements can already be achieved today at a profit but are not being implemented because of market barriers and market failures. For this reason, simply putting a price on carbon is not enough. Focused policies must be used to reward efficiency and to eliminate perverse incentives like those

that shackle utilities' profits with the amount of electricity they sell.

Progressive States, along with innovative companies like Dow, Johnson Controls, and National Grid, have taken the lead in tackling these challenges. We are grateful to have representatives of these government and business leaders on our witness panel today. They can help show us the way forward.

As Congress considers climate legislation it will be critical to include policies that make energy efficiency our first fuel. Efficiency provides a vast zero carbon energy supply that can be deployed right now with current technologies at a net savings. If we are to cut global warming pollution as quickly and as deeply as the science says it must, it is imperative that climate legislation must be designed to capture efficiency gains immediately.

By making the potential of energy efficiency a reality, we can save the planet, while simultaneously saving consumers money, spurring job growth and meeting our Nation's rising energy demand at the lowest possible cost.

NBA coach Pat Riley once said, a particular shot, a way of moving the ball, can be a player's personal signature, but efficiency of performance is what wins the game for the team. If we are going to beat this energy climate and economic challenge, aggressively increasing America's energy efficiency may be at the center of our game plan.

That completes the opening statement of the Chair. I now turn and recognize the ranking member, the gentleman from Michigan, Mr. Upton.

Mr. Upton. Thank you, Mr. Chairman.

Our hearing today is an important one. The environmental and economic benefits of energy efficiency are truly significant.

Before I begin, I would like to submit a letter from Pilkington North America for the record.

[The information follows:]

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Mr. Upton. Pilkington is the leading U.S. manufacturer of glass, and they have a facility in my district.

Pilkington makes some very interesting points about the nature of energy efficiency. For example, certain building products like windows that are most efficient in southern States are not nearly as efficient in northern States. In the warm weather States of the south, windows that block solar heat are the most energy efficient. However, in the cold weather States in the north, with more heating days than cooling days, such as Massachusetts and Michigan, windows with a higher solar heat gain are more efficient. The right type of window on a cold winter day in Boston or Detroit or Chicago can take in heat from the sun, thus reducing the utility bills and saving energy.

With a tax provision in the stimulus bill that promotes windows that are designed primarily for warmer climates, the tax credit is only available for windows that block over 70 percent of solar heat. According to a Web site developed jointly by the Center for Sustainable Building Research, the Alliance to Save Energy, and Lawrence Berkeley National Lab, lower solar heat gains are best for southern climates. The site also recommends for northern States to reduce heating select the highest solar heat gain you can find so that winter solar gains can offset a portion of the heating energy need.

Pilkington said this about the tax revisions that favor

southern windows: "It will result in northern homes using glass that blocks 70 percent of the sun's free and renewable solar energy from entering the home. That in turn will result in unnecessary burning of additional fossil fuels to heat these homes."

That means higher utility bills in northern States and more greenhouse gas emissions. We must recognizes regional differences. When it comes to energy efficiency in buildings one size fits all doesn't always work. In fact, as we see in the window example, it could actually have the opposite effect.

I have long been an advocate in spurring efficient technologies into the marketplace. I was proud to work with my colleague, Ms. Harman, in passing legislation that improved efficiency standards of the light bulbs. Across the Nation, the environmental and economic benefits of more efficient bulbs will be, in fact, substantial.

Our work on light bulbs wasn't an arbitrary mandate. We didn't just pick a standard out of the air and look for a catchy sounding standard like 25 by 2025, not based on science or feasible. Instead, we worked with the industry and environmental groups to come up with a standard that made sense and doable, a standard that can be met by bulbs manufactured in this country, a standard that will include bulbs without any hazardous ingredients such as mercury.

If done correctly, increasing the energy efficiency standards

can reduce energy costs for consumers, help the environment, and have a positive economic impact. These benefits can be gained without a cap and trade program.

The question is, what should the Federal Government's role be? Well intentioned, it is possible for the government to get it wrong and push policies that will have a detrimental impact on the environment and pocketbook.

I look forward to hearing from our witnesses today, and I yield back the balance of my time.

Mr. Markey. The gentleman's time has expired.

The Chair recognized the gentleman from Washington State, Mr. Inslee.

Mr. Inslee. Thank you.

I just want to make two points. One, we have started last week, last Tuesday, down the efficiency road when President Obama signed the economic recovery bill; and I think over the long term one of the most productive things in that bill will be the provisions that require governors to certify that they would move towards more efficient building standards of about 30 percent improvement and decoupling which will unleash great economic resources for the efficiency industry. It was a small, quiet thing that was little noted on but I think will unleash tremendous assets for the efficiency industry.

Number two, I want to make the point that the efficiency industry is an industry. People think of avoiding waste as

something of a void or vacuum. In fact, it is a tremendous profit and job creation center.

I just want to note in my little neck of the woods up in Seattle some companies are doing that right now, just so that people know it is not a pipe dream.

We have got the MagnaDrive company in Bellevue, Washington, manufacturing electrical transmission services that reduces the electrical needs of generators by about 30 percent; Seattle Steam that does cogent electrical, a heating that essentially almost doubles the efficiency of a heating plant; McKinstry, which is the world's leading company to help corporations reduce their electrical usage, particularly on server forms; Boeing, which is making the world's energy efficient jetliners 20 percent more energy efficient than any other competitive jetliner; the Verdean Company, which is selling software which significantly reduces a corporation's use of energy in the computer industry.

I point those out because one of the largest job creation engines we have in the United States is the efficiency industry, and we intend to continue to draft policies to help them grow.

Thank you.

Mr. Markey. Thank you. The gentleman's time has expired. The Chair recognize the gentleman from Illinois, Mr. Shimkus.

Mr. Shimkus. Thank you, Mr. Chairman.

First, I want to thank my ranking member for bringing up that provision on windows. I am surprised I did not read it.

Oh, I did not have enough time to read the bill. But had I read the bill, I might have another window issue.

Mr. Upton. You will have an extra hour because of daylight savings in a couple of weeks.

Mr. Shimkus. But let me thank the chairman on bringing up this issue on efficiencies, and excuse me if I don't share in the enthusiasm. Because for many, many years we have been talking about efficiency gains in the generation of electricity; and we have a Federal policy that does just the opposite. It is one that we have debated here for 12 years, and it is the issue of new source review.

And take a power generating plant -- I don't care if it is pulverized coal. I don't care if it is gasification. Say that we want and have a new generator that can generate for the same amount of power output, double the amount of electricity. Now, I would say that many of us would say that that is an efficiency gain that should be noted, not punished, not penalized. But what occurs under new source review is the entire air permitting process has to revolve itself, which is a disincentive. If the boiler is the same, if the emissions is the same, if they are meeting air quality standards at the same time and there is no change, but you are going to double the amount of output, that is what we are talking about in efficiency gains. However, since I have been here for 12 years, we continue to provide a disincentive in the new source review debate.

And you will hear the claim it promotes dirty air. Especially if it is in a generator debate, it does no such thing.

So, Mr. Chairman, I hope you work with me in reforming the permitting process and streamlining the procedures by which, if we have the same emissions standards, whatever they are, and if we are going to have increased efficiency and electricity gains, that we change this capricious new source review program.

I yield back my time.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from North Carolina, Mr. Butterfield.

Mr. Butterfield. Thank you very much, Mr. Chairman, for convening this hearing today and thank the witnesses for coming forward with your testimonies.

Mr. Chairman, you told us a few weeks ago that you were serious about moving this debate along; and you are absolutely right. Today is evidence that we are ready to move boldly with this initiative.

With 40 percent of the U.S. energy consumption coming from commercial and residential buildings, raising efficiency and greening of our buildings provides a clear path toward lowering our emissions in a relatively low cost yet highly scalable capacity.

In the Southeast, where I am from, making strides in energy efficiency represents the most readily available means of cutting

greenhouse gas emissions. North Carolina, my State, currently has a renewable energy standard which is helping to drive innovation and deployment of new renewable technologies. However, we remain at a regional disadvantage for access to much of the existing renewable energy options. As such, it is incumbent upon us that we develop policies that place a value on the reduction of greenhouse gasses, regardless of the means of achieving that goal. This means focusing on a broader approach, including renewables as well as energy efficiency.

I want to comment briefly on a project in my hometown of Wilson, North Carolina, that is saving energy and reducing emissions using effective design and engineering changes. Wilson Community College recently constructed a LEED building, which is a certified green building, as a student center on the campus. I spoke for the dedication, and what I saw exceeded my expectations.

We must invest in more green buildings. Studies using DOE assistance indicate that this building will use 50 to 60 percent less energy than a normal new building of similar size, built to existing codes. The center's efficiency improvements will pay for themselves 10 times over in energy savings during the building's lifetime.

Energy efficiency is an issue, Mr. Chairman, that is and should be universally supported.

Thank you, I yield back.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from Oregon, Mr. Walden.

Mr. Walden. Thank you very much, Mr. Chairman. I appreciate the opportunity to participate in this hearing.

We also have a communications hearing that is going to take place starting at 10:00, so I apologize to the witnesses ahead of time. I will be bouncing back and forth between the two.

As I was reading through the testimony, I was struck by the Johnson Controls' testimony on the part about how energy efficiency is good for consumers and business. I believe it is, and I come from a State that has pioneered energy efficiency and conservation. We believe in it strongly.

In the testimony, Mr. Campbell says, energy prices are escalating and will continue to rise with the price on carbon. Energy efficiency will reduce the impact of climate policies on consumers' energy bills. It will lower energy spending for American businesses large and small, enabling them to better compete in the global economy. Smarter, more efficient buildings not only have lower utility bills but also improve health, safety and comfort.

I concur with all of that. Except that this committee just passed something that none of us -- well, at least those on the Republican side -- didn't get a chance to see in advance, and that is this decoupling motion. Which, as I understand it, basically says the utilities will have the right to come in and make up their lost revenue that results from energy efficiency. And while

some consumers maybe think that is a warm idea, mine are pretty hot about it. They are going to get hotter the more they find out about it.

I would like to know, Mr. Chairman, who wrote these positions? Who was in the room when this was written in secret in this bill since we never had a hearing and only learned about it as we went into markup? I would hope at some point we'd know who were the lobbyists in the room? Who were the legislators in the room? There sure seem to be a lot of folks who know about this and how those provisions came to be. But there sure was no public hearing on the legislation.

And I would say, too, our area in Oregon is known for its wind energy. And yet I have also seen the hour-by-hour energy production data that indicates that without some sort of peaking power you cannot balance out that load. So gas does matter. Peaking power is going to be more important the more we go to non-firm power-based generators.

Thank you, Mr. Chairman. I realize I have run out of time.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from California, the chairman of the full committee, Mr. Waxman.

The Chairman. Thank you very much, Mr. Chairman.

Today's hearing will explore how energy efficiency can meet our power needs, save us money, create jobs and help slow global warming. Sometimes, the simple solutions are overlooked. Energy

efficiency is both the most affordable and fastest source of energy, even though many people don't think of it that way.

As several of our witnesses point out in their written testimony, supplying a kilowatt through energy efficiency commonly costs half as much as buying a kilowatt from power generators; and because the cost of efficiency doesn't depend on oil or natural gas prices, efficiency reduces energy costs across the board and their volatility.

Businesses across the country find that when they focus on energy efficiency they can achieve significant cost savings, increasing profits to invest in expansion and new jobs. We will hear about some of those experiences today.

Homeowners find that they can make their houses more comfortable, lower utility bills, recoup their costs in a few years, and then watch their savings grow.

Energy efficiency can also be deployed quickly, compared to planning, siting, financing, permitting, and constructing a new power plant. And energy efficiency doesn't require any new or existing transition capacity. That means efficiency can come on line without waiting for transmission upgrades.

Energy efficiency is a job engine. Because efficiency gains come in so many forms, efficiency creates opportunities for small businesses and big businesses throughout the economy. These range from construction and engineering jobs, retrofitting buildings, manufacture of efficient products such as next generation windows

and lighting. In building a strong energy efficient economy for America, we will help employ workers and give more jobs.

For all these reasons, promoting energy efficiency must be a key element of climate legislation. We need substantial efficiency improvements to achieve large greenhouse gas emissions reductions at a reasonable cost. That is why the International Energy Agency concluded that more than half of the emissions reductions required by 2050 globally must come from improvements in energy efficiency.

And we know that the experiences -- that the market by itself won't deliver all the available low-cost efficiency savings. Homeowners, for example, may know that they can save money by buying a more efficient furnace, but many don't have the capital to make up-front investments. A landlord has little incentive to weatherize an apartment when the tenant pays the utilities.

Local, State and Federal policies have helped successfully address some of those and other barriers. Building codes and appliance standards are two types of policies that saved us huge amounts of energy and money in 1 year alone. For example, the savings from the efficient appliances and qualifier for an ENERGY STAR label save as much energy as required by 10 million American homes.

You can see the results in a State such as California, which made energy efficiency a priority for decades. Since 1975, California's energy efficiency standards for buildings and

appliances have saved residences and businesses $56 billion in energy costs and avoided the need to build 24 major power plants. And today we will hear about Massachusetts' instructive experience in promoting energy efficiency.

I look forward to hearing from our witnesses and their recommendations on how we design climate change legislation to best take advantage of the great benefits that energy efficiency offers us. Thank you, Mr. Chairman.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from Florida, Mr. Stearns.

Mr. Stearns. Thank you, Mr. Chairman. I thank you and the ranking member for this hearing.

My staff just was able to get a copy of the stimulus bill that we passed 11 days ago. So it is not humanly possible for us to read it. So we didn't know of all the intricacies that were in the bill.

But for those homeowners that are installing those programmable thermostats, choosing ENERGY STAR qualified appliances and things Mr. Waxman, the chairman, mentioned, additional attic installation, and replacing all windows and doors with more efficient ones are all cost-effective renovations. Homeowners will be very pleased with these renovations, hoping that will make their house more modernized but also more cost efficient.

But because, my colleagues, of the decoupling provision that

passed in the stimulus bill which was supported by the majority party, they will be surprised. Customers will be forced to pay more energy after they have done all these things I mentioned.

The resulting high energy rates will be especially hard on those elderly people that spend their hard-earned dollars to fix up their homes. Because their incomes will be fixed; and these individuals will think, well, gee whiz, my costs are coming down. But, lo and behold, they will not be coming down. Because of the complex structure of the energy utility bills, you hope to attain achievable energy savings, but you will not see that.

So I think that that is a very important part of this hearing. We want to promote energy efficient technologies to reduce energy consumption, but, ultimately, I think the market has to play a spot here, and not Congress, in determining the preferred cost-effective technologies and effective and efficient building practices implemented.

So I look forward to this hearing and thank you, Mr. Chairman.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from Vermont, Mr. Welch.

Mr. Welch. Thank you, Mr. Chairman.

Global warming, as we all know, is real, and it is urgent, and it requires immediate action. We cannot simply solve this crisis without focusing, increasing our energy efficiency. For a Nation that consumes more than 25 percent of the world's energy,

we simply can not afford anything that is less.

In Vermont, actually, we have shown that it can be done. We have an energy efficiency utility. It is the Nation's first Statewide provider of energy efficiency services. And what this pioneering energy efficiency utility has demonstrated is really quite remarkable.

First, efficiency works. Thanks to a commitment to investing in efficiency and the effectiveness of Efficiency Vermont, our Statewide energy requirements were reduced by 1.74 percent in 2007. That exceeded the projected rate of low growth, making us the first State to ever turn low growth negative. People said it couldn't be done. Vermont has done it.

Second, efficiency is cost effective. The cost of efficiency, as you pointed out, is about 2.6 cents per kilowatt hour, compared to 10.7 cents per kilowatt hour for comparable energy; and Vermonters saved money. In 2007, this was an 88 percent increase savings over 2006.

Third, energy efficiency is the path to reducing our carbon emissions. For 2007, Efficiency Vermont's efforts resulted in 661,000 fewer tons of CO2, 562 fewer tons of nitrogen oxide, and 1,100 fewer tons of sulfur dioxide entering the atmosphere.

The goal of this committee is to reduce greenhouse gasses by 80 percent by 2050. Many models suggest that energy efficiency can and must provide about 30 percent of that reduction, and to meet that target we must have to have as a goal about 3 percent

reduction through efficiency each year. Now Vermont had 2 percent last year. We can and we must begin to build the on ramp towards a global warming solution. That on ramp, simply put, is through efficiency.

I yield back.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from Texas, Mr. Hall.

Mr. Hall. Mr. Chairman, I pass on questions. I reserve my time.

Mr. Markey. The Chair recognizes the gentleman from Louisiana, Mr. Scalise.

Mr. Scalise. Thank you, Mr. Chairman. I am looking forward to the hearing that we are going to have and the testimony from our panel.

As we develop a comprehensive national energy policy, efficiency and conservation are definitely part of what needs to be a comprehensive plan that also needs to include the development of our own natural resources to reduce our dependence on foreign oil. But, also, it has got to include a provision that encourages the development of alternative sources of energy, the renewables like wind and solar which are not commercially viable enough today to replace the domestic energy that we have but ultimately we can use that domestic energy as a bridge to get there.

But I think if you look at what people are doing in this country, they are conserving. When gas was at $4 a gallon, people

were cutting back dramatically; and they haven't changed their habits to a large degree, even though the price has dropped a significant amount. So I think we need to encourage that conservation and the efficiencies that they have been yielding.

One concern that some of us have is that we looked at the stimulation bill and there was a provision, the decoupling provision, that, in essence, will penalize some people who go and do those things to make their homes more energy efficient. And I think we have to be very careful in this committee and in the Congress as a whole that we don't penalize people who take those extra steps. If they want to spend what is a large capital outlay to put solar panels on the roof and to put insulation on the attic, they are not penalized by having to pay higher utility rates for doing those things.

So we shouldn't discourage good behavior by policy; and, unfortunately, that was a provision that got into the stimulus bill. Hopefully, as people across the country realize that and senior citizens realize they may be paying more for energy because they didn't spend $40,000 to put those solar panels up, that is an issue we can revisit. Because we should avoid policies that discourage people from doing the right thing.

So, hopefully, we will look at all of those and all parts of that three-legged stool, of a comprehensive policy, efficiency and conservation being one of those three.

Thank you, and I yield back.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes Mr. Green.

Mr. Green. Mr. Chairman, I waive opening statement for additional questioning time.

Mr. Markey. The gentleman waives.

The Chair recognizes the gentleman from Georgia, Mr. Barrow.

Mr. Barrow. I thank the Chair. I will waive, also.

Mr. Markey. The Chair recognizes the gentlelady from California, Ms. Matsui.

Ms. Matsui. Thank you, Mr. Chairman. Thank you very much for calling this hearing today.

I would also like to thank today's panelists. We all appreciate your time and expertise on those matters.

Buildings in our country are responsible for more greenhouse gas emissions than any other sector. Heating, cooling, lighting our buildings, as well as powering our appliances requires vast amounts of energy. But, thankfully, we currently possess the technology and knowledge needed to address a quarter of our Nation's carbon emissions.

Improved energy efficiency will be an essential element of any climate change solution. My district of Sacramento, California, has been a leader in adopting green building practices. We have the first LEED platinum certified office building in the country. We also have the second-most LEED certified square footage of any city. We are also home to the

California Energy Commission and have been a leader in energy efficiency for over 30 years.

Under the leadership of Art Rosenfeld, who is really the godfather of energy efficiency in this country, our State energy commission has kept California's per capita energy consumption flat.

Furthermore, Federal programs such as ENERGY STAR and Build America are expending technologies and giving us concrete ways to confront climate change.

Last Congress, I introduced a measure to assist homeowners across the country with energy efficiency landscaping practices. Even changing something as simple as how our buildings get sunlight can make a big difference in how much energy they consume.

I look forward to working with my colleagues on this committee to examine and promote energy efficiency, while helping our constituents to do the same. By saving people money and reducing our carbon emissions, energy efficiency is truly a win-win proposition.

Once again, Mr. Chairman, thank you very much for highlighting this important issue; and I yield back the balance of my time.

Mr. Markey. The gentlelady's time has completed.

The Chair recognizes the gentleman from Pennsylvania, Mr. Pitts.

Mr. Pitts. Thank you, Mr. Chairman. I want to thank you for convening this hearing today on such an important issue.

Like all of us, I believe that sound energy efficiency measures will certainly help decrease the amount of greenhouse gas emission in our atmosphere. It will also encourage our country to strengthen our energy security and end our dependence on foreign energy resources. However, if energy efficiency matters are not implemented in a cost-effective manner, they will harm our economy.

In the recently passed stimulus bill, as has been noted that we just were able to get a copy of, a potentially very harmful provision was included, decoupling. Decoupling, the separating of utility rates from the amount of electricity or natural gas that utilities sell, will inevitably harm our already damaged economy and those least able to withstand more economic pressure, regular Americans who are struggling to make ends meet during this recession.

Under the stimulus, if a State accepts Federal energy efficiency grants, they will have to guarantee that utilities recover their lost revenue when consumers don't use as much electricity; and this forces the consumer, the rate payer, to keep utilities solvent, even if their own energy use decreases.

With an anticipated decline in energy use in 2009, this policy will force customers to pay more money for less energy; and the government essentially will be punishing people for conserving

energy. I believe we must instead create incentives for energy conservation and reward consumers when they save energy, not force them to pay artificially higher utility rates.

Utilities have a legitimate concern that increased efficiency will cost revenue, but if we learned anything from the mortgage crunch it is this: Government policies that try to alter or ignore the fundamental laws of economics create more problems than they solve. Penalizing consumers for using less energy doesn't seem like the right solution. I hope we can all work together and come up with a better alternative.

I look forward to hearing the witness today and thank you and yield back.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentlelady from California, Mrs. Capps.

Mrs. Capps. Thank you, Mr. Chairman, for holding this very important hearing to explore the vital role energy efficiency will play on reducing greenhouse gases and achieving our climate change objectives.

I remember so well the image of one of the CEOs of the big oil companies when the gasoline prices were skyrocketing being challenged, what are we going do about these high prices? He said, I have one word for you: efficiency. And it holds true in our topic here today as well.

I thank our esteemed witness for their testimony on this very

important matter.

Energy efficiency is a win-win. By reducing consumption of energy, we save money and we also cut greenhouse gasses. The chairman of our full committee as well as my neighbor from Sacramento, Doris Matsui, have highlighted what has been achieved in California, my State as well, a long-time leader among other States in energy efficiency. We use less energy per capita than any other State in the Nation. As the chairman said, in 1995 -- since 1975, rather, per capita energy consumption in California has held steady, while in the U.S. as a whole it has grown by 50 percent.

Furthermore, by implementing green energy policies that lower consumption and cut greenhouse gasses, we have managed to spend less. On average, California families now spend $800 a year less on energy than they would have without the efficiency advancements of the last three decades. We have managed to cut also per capita of carbon dioxide emissions by 30 percent over the last 30 years.

These successes have come as a result of strong standards combined with innovative regulations and innovative achievements. So I thank you, Mr. Chairman, for the leadership of this committee and of our administration for setting some high goals.

As we move forward to craft climate legislation, consider the complementary policies necessary to reduce greenhouse gasses. I hope you will recognize groundbreaking work that is already occurring in California, Massachusetts, and other places and that

will build smart policy on their achievements, on the achievements that have been already accomplished in local communities.

Thank you very much, and I yield back.

Mr. Markey. The gentlelady's time has expired.

The Chair recognizes the gentleman from Texas, Mr. Burgess.

Mr. Burgess. I thank you for holding this hearing. I look forward to hearing from our panel of witnesses today.

Energy efficiency is exactly the type of issue where we can work together on this committee despite our clear differences on carbon control regimes. Energy efficiency is the type of win-win scenario that people seek in public policy decisions before Congress.

We need to ensure that the consumers of electricity receive the cost savings from energy efficiency and that this does not accrue to the electric utilities. The incentive to implement energy efficiency technology must provide direct benefits to the end users who ultimately pay the rates to families of small businesses and to manufacturers.

Unfortunately, the revenue-decoupling portion of the economic stimulus bill redirected these benefits to the utilities so the consumers pay the same price no matter how much energy they consume or save. I hope that this committee can work together to correct this provision and redirect the benefits of energy efficiency back to rate payers.

This is not just a hypothetical concern with me, Mr.

Chairman. A few years ago my wife and I found ourselves building a new home, and the number of things that were available off the shelf for energy efficiency really made an impression upon me -- we already heard from a member on the other side -- things like siding your house correctly to take advantage of passive solar heating if you are in a climate where that will be of benefit; the ultra-high-efficiency air conditioners that are available nowadays; foam insulation in the walls; Low-E glass; the tankless water heater; the Efficient Attic System.

Our electric utility rates dropped one-half the summer we moved into this house which was the same square footage as the house we had occupied the previous summer. Our natural gas consumption similarly declined by about half, demonstrating the powerful effect of energy efficiency.

This is an area where we can all agree improvements can be made. I want to be certain, though, that the decisions we make in this committee do not increase the cost of development and increase the cost of manufacturing, because the economy right now cannot tolerate that type of convulsion.

I yield back the balance of my time.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from Texas, Mr. Gonzalez.

Mr. Gonzalez. I waive opening.

Mr. Markey. The Chair recognizes the gentlelady from Wisconsin, Ms. Baldwin.

Ms. Baldwin. Thank you, Mr. Chairman.

Over the past 2 years, this subcommittee has heard about emerging technologies, necessary investments in research, and critical infrastructure that must be developed if we are to reduce our energy use and lower our greenhouse gas emissions. We have focused on carbon sequestration, cellulosic ethanol and plug-in hybrid vehicles as solutions to our energy and climate change crises. These are important discussions to have.

In looking toward the future, we cannot lose sight of the significant energy savings that are currently available to us. Today, by having a thorough discussion of energy efficiency opportunities, we draw attention to low-cost strategies that can be used to reduce greenhouse gas emissions.

I am particularly interested in how the industrial sector can optimize its energy use. In December, the Oak Ridge National Laboratory released a report saying that waste energy recovery is, "One of the most promising options in the U.S. energy efficiency portfolio." I am pleased with a number of the provisions included in the Energy Independence and Security Act that encourage waste heat recovery, and I look forward to hearing about our opportunities that we may be able to make available.

Finally, I want to welcome all of our witnesses here today. But one in particular, Mr. Iain Campbell, is here representing Johnson Controls, which is headquartered just outside of my district in Milwaukee, Wisconsin. Johnson Controls is a leader in

innovation, building batteries for the next generation of plug-in hybrid vehicles and addressing efficiency in buildings to help manage energy costs, reduce environmental impacts and improve productivity and competitiveness.

I would add that Johnson Controls doesn't just talk the talk. Rather, they have taken significant steps to improve their own efficiencies and reduce their own carbon footprint; and through it all they have continued growing.

I thank you for your company's commitment to environmental stewardship and corporate responsibility and welcome your testimony as well as the testimony of the entire panel that we are very grateful to have before us today.

Thank you, Mr. Chairman. I yield back the balance of my time.

Mr. Markey. The gentlelady's time expired.

The Chair recognizes the gentleman from Missouri, Mr. Blunt.

Mr. Blunt. I think, Mr. Chairman, I will submit a statement later for the record.

Mr. Markey. Then that completes all opening statements by the members, and we will now turn to our very distinguished panel and hear from our first witness.

STATEMENTS OF THE HONORABLE PHILIP GIUDICE, COMMISSIONER, MASSACHUSETTS DEPARTMENT OF ENERGY RESOURCES; TOM KING, PRESIDENT, NATIONAL GRID USA, RICH WELLS, VICE PRESIDENT, ENERGY, THE DOW CHEMICAL CORPORATION; IAIN CAMPBELL, VICE PRESIDENT AND GENERAL MANAGER, JOHNSON CONTROLS INC.; JOHN ANDERSON, PRESIDENT, ELECTRICITY CONSUMERS RESOURCE COUNCIL; AND BRYAN REICHEL, PRESIDENT AND CEO, PURECHOICE, INC.

Mr. Markey. Our first witness is Phil Giudice, who is the Commissioner of the Massachusetts Department of Energy Resources. He has over 30 years of experience in the energy industry and currently serves on the boards of the Regional Greenhouse Gas Initiative and the Massachusetts Renewable Energy Trust.

We look forward to your testimony. Whenever you are ready, please begin.

STATEMENT OF THE HONORABLE PHILIP GIUDICE

Mr. Giudice. Thank you, Chairman Markey and the committee, on behalf of Governor Patrick, Secretary Bowles, all of Massachusetts and all of the State energy offices. I thank you not only for your long-standing leadership on energy and climate matters but for your aggressive support of the recently passed stimulus package.

Funding for the State energy program, the Weatherization Assistance Program, the energy efficiency conservation block grants and the appliance energy rebates, among many other program in the stimulus package, will be put to good use in Massachusetts and elsewhere around the country.

In 1990, when the State Energy Efficiency Program Improvement Act was passed, you were the chief sponsor, Chairman Markey. This has allowed the SEP programs to serve as a ready-to-use vehicle across the country for distributing a significant portion of these stimulus dollars. Every year, you have led the effort in the House of Representatives to increase funding for SEP, weatherization and LIHEAP. These are important for Massachusetts and our country. Thank you.

Further, we are proud to strongly support your recently filed Save American Energy Act; and we look forward to working with you, the committee, the Massachusetts delegation, Congress and the administration to advance boldly Federal energy and climate policies this session.

If you take away only one thing from my comments today it is this: Energy efficiency is a proven, reliable and extremely valuable tool for building a greener energy future. It is also a tool that we can quickly deploy to reinvest in our homes, businesses, starting today, in ways that will begin to turn around our economy and in the longer term put the United States at the hub of a 21st century global clean energy economy.

As Governor Patrick has said about Massachusetts, if we get clean energy right, the world will be our customer. And in the context of your consideration of Federal climate legislation it is also clear, based on our long experience in Massachusetts with the efficiency programs and our short-but-valuable experience with carbon caps through the Regional Greenhouse Gas Initiative, that energy efficiency is the best climate mitigation tool that we have and a powerful economic driver for our economies.

I know you are well acquainted with our existing efficiency policies in Massachusetts, but I want to take this opportunity to share for the record some of the lessons and provide a glimpse of the transformation that is under way in Massachusetts.

Massachusetts has historically had some of the highest costs of energy in the country, but our innovative people have combined to establish us as a leader in efficiency. Our energy productivity of the State is the one of the highest in the Nation, with our economy generating $200 of gross State product for every million BTUs of energy consumed. The U.S. averages $116 for million BTUs consumed.

The efficiency and economic growth can and do go hand in hand in Massachusetts. Massachusetts's long and distinguished record investing in energy efficiency is delivering great results. We have continuously invested for over three decades. We collect about a quarter of a penny for every kilowatt hour. This is distributed by our regulated utilities in wide-ranging and

far-reaching energy efficiency programs, totals about $125 million a year, which is about $20 per person in the State of Massachusetts. U.S. total through regulated utility programs are spending about $2.5 billion or about $8. So we are about 2.5 times the national average.

These programs result in saving energy at a cost of about 3.6 cents a kilowatt hour and contribute to an overall savings of 8 percent of the kilowatt hours that we would otherwise be consuming in Massachusetts. So this is a great deal, especially when the annual cost of power from generation in the wholesale market averages 8 or more cents a kilowatt hour.

We are not resting on those accomplishments. In fact, we at this moment are in the process of transforming our energy efficiency infrastructure in our approaches; and this effort is producing remarkable results.

The transformation began with Governor Patrick and our legislature's leadership to fundamentally change the equation for investing in efficiency. Instead of investing a prescribed amount of the 2.5 mills that they were collecting and getting as much energy efficiency as we could with this sum of money, we are now required by law to invest in all energy efficiency that is less expensive than supply sources. We expect this will double, triple or more our efficiency spending and the results that we will be getting from our efficiency programs.

This transformation is largely being accelerated by investing

the revenues from our participation in the Regional Greenhouse Gas Initiative. We have had two auctions, and we have generated almost $30 million that are going directly into these programs in Massachusetts and will be further turbocharged by the recently passed Federal stimulus. This will mean more G auditors, more contractors working on insulation in air, ceiling and homes and businesses and improving our building stock, more plumbers and HVAC control technicians to change out the inefficient equipment and put in much more efficient.

All kinds of organizations are taking charge of becoming energy leaders. As you well know, Mr. Chairman, Massachusetts is proud of its professional sports teams; and, in addition to winning six championship banners in the last 7 years, each of our sports teams, the Red Sox and New England Patriots, are doing fantastic things from their energy consumption.

So I ask you at this moment to go much bolder than we will necessarily be comfortable for. Because, in the future, we will look back and wish we were taking bold steps at this time. Thank you.

Mr. Markey. Thank you very much. We appreciate it.

[The prepared statement of Mr. Giudice follows:]

******** INSERT 1-1 ********

Mr. Markey. Our next witness is Mr. Thomas King, who is the President of National Grid in the United States. Before joining National Grid, Mr. King spent 10 years with Pacific Gas and Electric Company where he was Chairman and CEO.

Whenever you are ready, please begin.

STATEMENT OF TOM KING

Mr. King. Mr. Chairman, Ranking Member Upton and members of the committee, I want to thank you for including National Grid in this very important hearing on energy efficiency.

May I first congratulate you and your congressional colleagues for your focus and success with important initiatives on energy efficiency renewables, infrastructure such as smart grid, and other critical energy support in last week's stimulus bill.

Mr. Chairman, we are also pleased with the directional approach you have introduced with initiatives that address both Energy Efficiency Resource Standard and renewable energy.

There is no single solution with the overall energy policy. We need more expansive, robust energy efficiency programs. We need new sources of renewable energy, wind, solar biomass, geothermal. We need a comprehensive strategy to address our transmission infrastructure, including policies that will enable

us to bring renewable energy to load centers; and we need smart grid technology and smart meters to maximize the potential of current and future energy technologies through efficiency and automation. All of those actions play a critical role in an effective National energy policy.

While the National energy strategy must be multifaceted, my comments today will focus on energy efficiency. Energy efficiency uniquely addresses many of our Nation's core energy issues. It is more cost effective than building new power plants, has the potential to dramatically lower greenhouse gas emissions, and provides consumers with long-term savings on their energy bills.

Let me begin with some simple facts on the cost effectiveness of energy efficiency.

Energy efficiency can cost as little as $0.03 per kilowatt hours saved, while electricity costs $0.06 to $0.12 per kilowatt hour. As a country, we spend about $215 billion annually on production of electricity, but we only invest $2.6 billion on energy efficiency. For natural gas, efficiency costs range $1 to $2 per thousand cubic foot consumed, compared to a typical market cost ranging from $6 to $8 per Mcf. Yet we spend approximately $91 billion annually on natural gas and only $500 million on efficiency of natural gas.

This country must take better advantage of this opportunity and prioritize energy efficiency. National Grid's experience with energy efficiency programs in Massachusetts can be a model for the

rest of the country. The successful programs include comprehensive whole house efficiency approaches, energy audits, high efficiency lighting, HVAC installation to ensure efficiency, energy efficiency services to low-income customers, business customer assistance to implement energy savings, and weatherization initiatives.

On the gas side, the programs include high efficiency appliances; weatherization; and system controls, including automatic thermostats.

I congratulate Governor Deval Patrick and the Massachusetts Executive Office of Energy and Environmental Affairs for passing comprehensive energy legislation in Massachusetts, the 2008 Green Communities Act. This provision will allow National Grid to expand our efficiency programs by 300 to 400 percent over the next 5 years.

National Grid, in partnership with other leading energy companies such as PG&E, DT&E, environmental groups such as the Natural Resources Defense Council, and Environmental Defense, worked together with McKenzie & Company to look at energy efficiency. The landmark study found that the U.S. can make substantial emissions by 2030 without damaging the economy with the help of energy efficiency.

The Electric Power and Research Institute recently introduced its own energy efficiency savings analysis. By analyzing the impacts of codes and standards as well as market-driven

efficiency, the study shows measurable reductions in energy consumption.

In addition to energy efficiency, we will need a national policy such as a mandatory cap and trade program. As consumers bear the cost of addressing climate change in the form of higher energy prices, climate change policies must be designed to mitigate that impact. One of the most effective and transparent ways to simultaneously address consumer costs and energy efficiency is to distribute allowances to local distribution companies with the mandate that the value be returned expeditiously to the customers to reduce their energy bills.

Current State enforcement power and rigorous open reporting will ensure that all allowance values allocated to the LDCs do benefit the customers. LDCs are uniquely positioned to administer community based energy efficiency programs because they already have the necessary experience, communication channels, marketing expertise, funding and oversight processes and access in place in the market to move things quickly.

National Grid already has efficiency programs in place that are saving customers in New England over $250 million a year. As a result of these programs, National Grid's customers have saved more than $3.6 billion in energy costs. In 2007 alone, our gas program saved 4.6 million thermal units and avoided 27,000 tons of CO2; and our electricity program saved 380,000 megawatts, avoiding 218 tons of CO2. This is a total carbon emission equivalent of

taking 48,000 cars off the road a year. Expansion of such programs, as a result, creates energy efficiency jobs.

Energy efficiency should act as the foundation of our national energy policy; and, importantly, we need to move quickly. I commend your work and thank you.

Mr. Markey. Thank you, Mr. King, very much.

[The prepared statement of Mr. King follows:]

******** INSERT 1-2 ********

Mr. Markey. Our next witness is Rich Wells, who is the Vice President of Energy for the Dow Chemical Company. He is a member of the board of directors of the Alliance to Save Energy and in 2008 was appointed to the Michigan Climate Change Action Council by Governor Jennifer Granholm.

Thank you for being with us today.

STATEMENT OF RICH WELLS

Mr. Wells. Chairman Markey, Representative Upton, and members of the committee, thank you for the opportunity to provide our views on energy efficiency and its role in the future energy and climate change policies in our country.

First, I would like to address the role energy plays for Dow. As one of the largest chemicals and plastics producers, Dow uses the equivalent of 850,000 barrels of oil every day in its global operation. Of this total, approximately half is in the United States. Energy used by Dow is converted into a wide variety of products essential to our economy and our citizens' quality of life. Those products serve as building blocks for everything from pharmaceuticals, insulation, electronic materials, infrastructure and much more.

With energy being a key enabler for all of our products, it is no surprise that the volatility of energy prices over the last

6 years has had a dramatic impact on Dow. In 2002, our total annual energy and feedstock bill was $8 billion. In 2008, that number climbed to over $27 billion.

Dow has an energy efficiency and conservation program which has been refined over the past two decades. This program, through its energy savings, has allowed us to sustain our operation despite these raising energy costs. Let me give you some examples of the impressive results from that program.

We have saved over 1,600 trillion BTUs of energy since 1994, which is enough energy to power every home in California for 1 year. We have saved $8.6 billion in energy costs over the past 14 years, and these energy savings have prevented 86 million metric tons of CO2 from entering our atmosphere.

Dow's efforts in energy efficiency have been recognized by the EPA, who named our company an ENERGY STAR partner of the year in 2008. We have been involved in energy efficient outreach efforts both in the U.S. and internationally, including China.

Despite being a very energy intensive company, Dow provides products that helps consumers save energy and reduce greenhouse gas emissions. In fact, the emissions avoided by use of Dow thermal insulation are seven times greater than our total corporate emissions.

As you can see, Dow is committed to energy efficiency. It is the quickest, cheapest, cleanest way to extend our Nation's energy supplies and reduce carbon emissions. That is why we recommend

Congress implement the following complementary policies for energy efficiency:

First, strengthen building energy codes by 30 percent starting in 2012 and 50 percent by 2020.

RPTS MCKENZIE

DCMN HOFSTAD

[10:38 a.m.]

Mr. Wells. These building code improvements could save up to 6 billion metric tons of CO2 emissions by 2050.

Second, implement a Federal energy efficiency resource standard. Estimates show that by 2020 a Federal EERS could reduce peak electrical demand by 90,000 megawatts, cut CO2 emissions by 260 million metric tons, and create 260,000 net jobs.

Third, increase the payback periods on low-interest loans to industry for energy-efficiency projects. These projects would improve energy efficiency within the private sector, stimulate the economy, and lower greenhouse gas emissions.

And finally, re-energize the DOE Industrial Technologies Program. Strengthen the program by placing greater emphasis on early-stage R&D, as well as expanding focus on cogeneration and recycled energy.

Dow supports the prompt enactment of an environmentally effective and economically sustainable cap-and-trade program. As a member of USCAP, Dow supports an 80 percent reduction in CO2 emissions by the year 2050. However, we need to be thoughtful when designing climate policy. Too strong a price signal on carbon in the short term could accelerate fuel switching from coal to natural gas in the power generation sector. Such a movement could trigger a steep demand for natural gas, dramatically driving

up prices and harming manufacturers, including Dow. Combined with other well-designed climate policy elements, complementary energy efficiency measures can lessen the impact of fuel switching under a cap-and-trade program.

In conclusion, Congress should pass cap-and-trade legislation with complementary measures in order to drive energy efficiency through all phases of climate policy. If we fail to do so, we risk negative impacts and burdens on all sectors of our economy, including our manufacturing base.

I thank you for the opportunity to speak with you today, and I will be happy to answer your questions when it is appropriate. Thank you.

[The prepared statement of Mr. Wells follows:]

******** INSERT 2-1 ********

Mr. Inslee. Thank you, Mr. Wells. And I know about your great work. There is an interesting book that has said really good things about Dow. I will tell you about that later.

Mr. Campbell?

STATEMENT OF IAIN CAMPBELL

Mr. Campbell. Chairman Markey and members of the subcommittee, thank you for the opportunity to provide testimony on complementary policies for climate legislation.

Johnson Controls is a world leader in providing energy-efficiency products, technologies, and services for buildings, and we would like to share an on-the-ground view of the opportunities and barriers to energy efficiency.

Some refer to energy efficiency as the fifth fuel, a new source of energy that we can tap to drive economic growth. We believe that energy efficiency should be considered the first fuel, as it saves consumers and businesses money through lower energy consumption and represents the lowest-cost source of energy using technologies widely available today.

In the first of three key points that we wish to make, we believe that a variety of complementary policies are needed to drive energy efficiency. In addition to putting a price on carbon, we support time-of-use pricing and smart-grid investments

to give energy users and their building management systems the information that they need to make smart decisions.

We support energy-efficiency resource standards, such as the legislation Representative Markey has recently introduced. Such a standard would dramatically ramp up efficiency investments while providing a path for utilities to cost-effectively decrease their overall emissions.

Building codes and equipment standards represent important policy levers. We support policies to provide incentives for the purchase of the highest-efficiency equipment to drive innovation and enable manufacturing scale. We also support the introduction of a system to label building performance to help better inform current and perspective building owners and ultimately increase demand for high-performance buildings.

With approximately 1 billion square feet of annual new construction, establishing complementary policies to enhance energy efficiency in new buildings is an important step. But, to the second of our three key points, these opportunities are dwarfed by the prospects of enhancing energy efficiency in the approximately 72 billion square feet of existing nonresidential building stock.

There are a range of barriers that prevent raising of energy-efficiency levels in existing buildings that have effectively been addressed in the public sector using an approach known as performance contracting. Performance contracting is a

competitive, market-based approach to delivering energy and operational savings that leverages public funding with private investment. This programmatic approach to retrofitting buildings can combine energy efficiency and renewable energy in a single, cost-effective project. The energy performance guarantees provided under these contracts ensure transparency and accountability for project outcomes, a critical element of any successful energy and climate policy.

Performance contracting has been successfully applied in the public sector for over 20 years. Examples include the University of Massachusetts in Amherst, where a $42 million investment, funded through public and private sources, delivered $56 million in guaranteed energy and operational savings as well as an improved learning environment for students and faculty alike. And Wyandotte Public Schools in Michigan implemented a combination of energy-efficiency retrofits, technology upgrades, and solar PV installation that delivered significant savings and helped the school district become the first in Michigan to be fully certified under the EPA's ENERGY STAR program.

While performance contracting has been successful in the public sector, there are barriers to the adoption of this model in the private sector: the mismatch of incentives between property owners and tenants, the frequency of turnover in building ownership, and the requirement to use building assets as collateral to secure loans.

To address this, we recommend establishing a program that would encourage large-scale, deep retrofitting of privately owned, commercial buildings. The program should provide incentives for efficiency improvements, in the form of rebates provided to building owners or their agents in proportion to verified and sustained performance improvements, and loan guarantees to help attract capital from private sources to fund those improvements.

A third and final point is that these complementary energy-efficiency policies have the potential to create a substantial wave of new green-collar jobs across the country. Developing this workforce will require a combination of public and private investment, along with the creation of certification programs to ensure that workers have the right skills and training to engineer, install, and maintain energy-efficiency projects.

Finally, let me note that included in my written testimony are a number of consensus recommendations from a coalition of energy-efficiency organizations, including Johnson Controls, entitled, "Reducing the Cost of Addressing Climate Change Through Energy Efficiency."

In closing, Johnson Controls believes in the need to increase the Nation's focus and investment in energy efficiency. Energy efficiency must be the first priority in addressing climate change as a way of containing the cost of climate protection and creating new jobs. It is imperative as a Nation that we focus on efficiency now. It has never been more important.

On behalf of Johnson Controls, thank you again for the opportunity to testify.

[The prepared statement of Mr. Campbell follows:]

******** INSERT 2-2 ********

Mr. Inslee. Mr. Campbell, excuse my failure to introduce you to the group.

Mr. Campbell, who just gave us a really interesting discussion, is vice president and general manager of the North America Service and Global WorkPlace Solutions for Johnson Controls.

Thank you very much.

The next witness is Dr. John Anderson, president and CEO of the Electricity Consumers Resource Council. His organization represents large industrial electricity consumers from virtually every sector of the manufacturing community.

Thank you, Dr. Anderson.

STATEMENT OF JOHN ANDERSON

Mr. Anderson. Thank you very much, Mr. Chairman and Mr. Upton and members of the subcommittee, for the opportunity to be here today.

I don't have to tell the members of this subcommittee that we are in troubled times. And these times are especially troubling for manufacturers. Speaking personally, I don't see a light at the end of this very dark tunnel in the near future.

As this subcommittee and Congress debate energy policy, I urge you to think very carefully about what the proposed policies will do to the electricity cost for consumers, whether industrial consumers will be able to bear these costs, and if instead they will have to close additional manufacturing facilities and move to lower-cost locations. We want to avoid that situation.

Which brings me to the subject of this hearing, energy efficiency. At the outset I emphasize that ELCON does not doubt that many opportunities exist to improve energy efficiency of manufacturing processes and that such improvements would help reduce greenhouse gases. However, most large industrial facilities are beyond the point where substantial savings can be achieved with plug-and-play measures, such as high-efficiency lightbulbs or insulation or motors. The next level of efficiency gains are achieved when entire industrial processes are retooled or rebuilt and options are explored, such as combined heating and

power. These are big-ticket items requiring very large outlays of capital over long periods of time.

Further complicating this problem is the current credit crunch. The core issue is, can utility financing of energy-efficiency investments compete with large industrial's own ability to raise capital on its own in normal capital markets? A question we ask consistently, are utilities better banks than banks are? And that may be a difficult question to answer today, but we don't think so.

Again, I emphasize the industrial customers are strong advocates, even activists, of cost-effective energy efficiency. Such manufacturers are in a constant quest to reduce the operating cost to increase competitiveness. But, at the same time, large industrial customers have historically not supported legislative or regulatory mandates for utility-implemented energy efficiencies. Such programs are both costly and not designed in a manner that would achieve maximum efficiency gains.

I raise four other related issues that are often discussed in the context of achieving greater energy efficiency, and I address them in much more detail in my written statements.

First is the energy-efficiency resource standards that has already been mentioned today. ELCON has not taken a formal position on the EERS. We certainly support measures that result in the implementation of cost-effective energy efficiency. However, there are some very basic questions that any EERS would

raise, and those I touch on in my written comments. If an EERS is actually implemented, we strongly urge that industrial facilities be exempt, recognizing that they already have taken significant energy-efficiency steps and knowing that this is not the time to layer additional costs on manufacturers.

The second issue I raise is revenue decoupling, which is one that has been mentioned several times here already. The debate over the stimulus bill demonstrated the great opposition to federally mandated revenue decoupling from both small and large customers alike. We disagree with the advocates of revenue coupling for several reasons.

First, we believe that revenue decoupling disrupts and distorts the utility's core business functions -- to produce and deliver electricity in an efficient manner -- and is not a particularly effective way of promoting energy efficiency. Moreover, there are better ways to deliver cost-effective energy efficiency, such as with a third-party entity rather than a utility. There is no basic conflict between implementation of energy efficiency through an independent third party and the loss of revenues for a utility.

Second, several States have found decoupling to be a failure once policy recognizes that a cool summer or a warm winter or an economic downturn triggers increased revenues to the utility even if no efficiency gains are made.

Third, we question why a regulated public utility that has

been given a monopoly service territory by a State should be rewarded for implementing an efficiency program that is required by either Federal or State mandates. We believe they have an obligation to serve and should be given an opportunity to recover prudently incurred costs and earn a return that reflects risk they incur but no more.

And, finally, many proponents of decoupling hold California up as a poster child for energy efficiency, at least partially because decoupling advocates assert that per-capita consumption of kilowatt hours in California was reduced. However, California also implemented an inverted rate structure that may have, in and of itself, brought about more energy efficiency than decoupling that was implemented and then taken away and then put back. And California's very high electric rates have contributed to the tremendous loss of manufacturing in the State. It is not hard to reduce electricity consumption if you take away your manufacturing base and put people out of work.

The third issue I raise is demand response. And I am not going to go into that in detail in my oral statements, but I urge to you look at it. We think it has a tremendous potential, and it ought to be considered along with energy-efficiency measures.

And the fourth issue is the utilization of combined heat and power, which was mentioned at least once. Manufacturing industries have been leaders in this effort. Unfortunately, companies planning to increase their CHP production have been

disappointed by a recent rulemaking process at the Federal Energy Regulatory Commission, or FERC.

Specifically, ELCON worked with members of this subcommittee, led by Representatives Barton, Boucher, and others, in drafting compromise language, the intent of which was to continue certain incentives for combined heat and power as provided for under PURPA until truly competitive markets were established. Unfortunately, things just didn't work out as expected. FERC's rule, in essence, discontinued those incentives for any facility operating in one of the FERC-approved RTOs or ISOs.

This rule will clearly hinder CHP growth. We strongly urge Congress to either reconsider the language in EPACT 2005 to more accurately reflect congressional intent or address this issue in an oversight hearing.

In conclusion, I return to where I started. Basic manufacturing in the U.S. is in terrible shape. Despite the well-intentioned stimulus package, I have seen no projections that manufacturing output will increase in the near future. Yet many in Congress and elsewhere seem intent on implementing several new and substantial energy initiatives. All have noble goals, but many will work to the detriment of industrial companies and their employees.

I applaud the subcommittee for seeking to make our energy market more efficient, but I ask the subcommittee, when considering energy legislation, to examine the total impact of its

proposals, including its impacts on the manufacturing sector. I urge you to consider several specific recommendations that are in my written testimony.

I thank you again for the opportunity to be before you today and look forward to your questions.

[The prepared statement of Mr. Anderson follows:]

******** INSERT 2-3 ********

Mr. Inslee. Thank you.

And our last witness is Mr. Bryan Reichel, who is president and CEO of PureChoice, Incorporated. PureChoice provides building performance reporting software and helps organizations with their energy efficiency.

Thank you, Mr. Reichel.

STATEMENT OF BRYAN REICHEL

Mr. Reichel. Thank you, sir.

I would like to thank Chairman Markey and Ranking Member Upton and the members of the subcommittee for inviting me here today. My name is Bryan Reichel. And I am president of PureChoice, Burnsville, Minnesota. We are an ENERGY STAR partner.

I will summarize my testimony, but I ask that it be included in the record as submitted. But what I am going to do is tell you a little bit different story today. Instead of telling you what I think we can do, I am going to tell what you we are doing today as a small company in Minnesota. There has been talk about looking for shovel-ready projects, and we are about as shovel ready as they go.

The main reason for energy use in commercial buildings is to condition the space for human occupancy. There are approximately 5 million existing commercial buildings in the U.S. today,

totaling well over 70 billion square feet. Consider then that, according to the Department of Energy, about 33 percent of the energy used in those buildings is used specifically for heating, ventilation, and air conditioning. The average cost of that is about $1.23 a square foot, or about $86 billion annually.

There has been talk of increasing the energy-efficient goals up to 10, 20, 30, now I hear up to 50 percent. But I ask the question, without first measuring the building for the performance of the building, how do you know that that building can even attain better energy efficiency? We need to somehow measure the performance of the building. I can achieve 100 percent energy efficiency in this particular building. If somebody would show me to the breaker panel, I will shut all the switches off. However, we screw up the interior environment of this building. So there has to be a balance somehow between energy-efficiency goals and our indoor air quality goals, which is the reason a lot of these codes were put into place in the first place.

PureChoice takes a bit of a different approach. We actually measure the interior performance of the building. We measure temperature and humidity and carbon dioxide and carbon monoxide and VOCs, which are basically odors and gases.

I brought with me today one of our mechanical pieces; it is called "The Nose." The Nose houses all these particular sensors on a single platform, and it is delivered every 20 seconds back to our server in Minnesota that is on a secure site. We then put it

out with our building performance software, which is called PureTrac. PureTrac is a Web-based data collection software that functions very much like a continuous energy audit. Essentially, we are continuously commissioning the building all the time.

Every building has an operating strategy. On a continuous basis, the software checks the overall performance of the building against that particular operating strategy. And, at the end of the month, we generate a report, and we tell you how efficient your building is to that particular operating strategy.

I can tell you we have no customers that are 100 percent. We have some customers in the 15 to 20 percent range, and they had no idea. And, on a simple basis, if you are spending $10,000 a month on energy, and you are 50 percent efficient, that is $5,000 that you have room to find.

I will give you an example of what we have done. We recently partnered with the Federal Government at the Bishop Henry Whipple Building in Minneapolis. It is located at Fort Snelling. The GSA, the Department of Energy, and the Minnesota Department of Commerce were our partners on the project. We monitored the building for 1 year. The partners identified opportunities for energy savings, and we modified the operation strategy. We realized a savings in excess of 20 percent in 1 year without compromising indoor air quality and without purchasing any additional HVAC equipment. The energy saving opportunity was in excess of $144,000. The payback was less than 2.2 years, fully

funded.

Now, the GSA was so pleased with that study that -- you may have seen this before -- they have included it in their "Sustainability Matters" document. I have submitted some of those for the subcommittee, and I have just an excerpt to show you. On page 94 to 99, it is the center of their bible going forward on how they achieve green and high-performance buildings.

The President has placed a priority on this. Congress recently passed $4.5 billion in the stimulus for energy conservation. We can achieve that in a very simplistic format. And I will tell you, if the GSA just wanted to do all their Federal buildings, they would spend less than $40 million and save approximately $60 million a year. And that is the bottom line, just to give you how much of this is available.

I will give you another example. We recently partnered with a big-box retailer in the city of Chicago. Chicago has got some of the strictest building codes in the country, as far as ventilation is required. The major retailer couldn't meet their energy-efficiency goals and achieve their indoor air quality goals at the same time. They used our PureTrac data, and the city gave them a variance on the ventilation rate, and they were able to cut ventilation by over 54 percent. But because they were able to electronically prove that they matched the indoor air quality guidelines of the code, that 54 percent averaged into $2,500 a month per store in realtime savings. They didn't disqualify the

indoor air quality of the building, and they met all the requirements of the code.

Currently, the technology is being used by Tulsa University. It is being taught in the engineering program at Stout University. We have partnered with Secretary Chu's old company, Lawrence Berkeley Labs. We have done three school studies with them. Dr. Michael Aptee has been our project partner out there. The study that we did in the schools found that the worse the air quality was in schools, the higher the absenteeism. For every thousand parts per million of carbon dioxide, absenteeism went up 10 to 20 percent.

Minnesota Power and the Minnesota Department of Commerce had us do another program called SAMPLE2, School Air Monitoring Program for Learning and Energy Efficiency. We did three schools in Minnesota, and the findings averaged that we could save an average of 14 percent of energy conservation, which was approximately $30,000 per school. If we take that across what Senator Boxer has proposed, we would save in excess of $580 million annually, using 2003 energy numbers, on all the public schools in this country.

This technology works. We are here today talking about how do we do energy efficiency. You need to measure the performance of the building, and we can turn everything else around. We have some suggestions. I look forward to your questions. Thank you for your time.

[The prepared statement of Mr. Reichel follows:]

******** INSERT 2-4 ********

Mr. Inslee. Thank you very much.

We would like to go to Mr. Upton first, in recognition of his great work on lighting last year.

Mr. Upton. Thank you. Thank you, Mr. Vice Chairman.

I would like to make a couple points.

First of all, when we dealt with the energy title as part of the stimulus bill, that moved through this committee, and those provisions actually passed by voice. I don't think there was any opposition to having incentives for improving on our energy efficiency in, really, any sector of our economy.

However, there was one rather contentious item that we debated -- and, Mr. Anderson, you touched on it -- and that was the decoupling issue. And I want to just pass a chart out to my colleagues and members of the panel on both sides here. This was printed by the Department of Energy, and it appeared in CQ Today back last month, and it talked a little bit about decoupling.

And, Mr. Wells, I have Western Michigan University in my district, and I want to think that every one of our rooms in the 50-some buildings on campus now have a Johnson Controls sensor, and it works. It savings the university hundreds of thousands of dollars every year in heating costs that we are able to see. We have schools in my district that have now achieved the ENERGY STAR rating. It is terrific, in terms of what we have.

And, as you look at the strides that we have made on

appliance standards, building standards, lightbulbs -- one of the issues that this subcommittee worked on and was able to pass in the Congress -- wind turbines -- last week, in my district, again, we looked at both residential and some of the giant, 80-meter types that are there -- we can save great amounts of energy.

But if you impose this decoupling on States -- and this chart illustrates that, again, from the Department of Energy -- you don't actually, at least my reading of it, you don't actually see the savings, the incentives to purchase that additional equipment. At the end of the day, the utilities are able to add increases in that rate, and you don't see the same savings. I mean, it would be like buying a hybrid automobile, and instead of paying the normal gas price, you just say, well, you drive a hybrid, so we are going to charge you another 25 cents a gallon at the pump to make up for what you are not giving the Exxon or BP or somebody else.

And I would like each of you maybe to just comment. It is a fairly simple chart here that was printed by the Department of Energy. But, as you can see, it has the original billing for residents, office buildings, and industrial buildings. And then it has the decoupled buildings, where the high users pay a little bit less but the low users pay considerably more. And I just think that it takes away the incentive for folks, businesses or homeowners, to actually install the devices that are going to save energy and make us less energy-reliant on other sources.

Mr. Reichel, if you would like to just start and make your comment based on this chart, and we will just go down the line in the time that I have remaining.

Mr. Reichel. Thank you, sir, but I don't have any position on the decoupling. In fact, the last time I heard the word "decoupling" was at my dog breeder's. So I can't speak to that.

Mr. Upton. Okay. I am glad this isn't in the big house downstairs, live on C-SPAN.

Mr. Anderson?

Mr. Anderson. Thank you, Mr. Upton. I have not seen this chart before, so I can't really respond to it.

Let me say a couple things about decoupling that I said a little more in my written statement. And we actually have a publication on it that I would like to ask if it can be inserted into this record.

[The information follows:]

******** COMMITTEE INSERT ********

Mr. Anderson. Decoupling, as you said, it does increase rates. That is what it does. Now, the increased rates may bring about reduced consumption. And for some customers, there could be a reduced bill. But for other customers, there won't be a reduced bill.

Mr. Upton. That is right. It rewards the folks that don't do as much as the folks that may invest in energy conservation.

Mr. Anderson. Precisely. Precisely. And that, to me, boils it down to --

Mr. Upton. That is a good answer.

Mr. Campbell?

Mr. Campbell. I am not sure I can comment deeply around the decoupling provisions. But what I can say is that, for energy efficiency to work, there has to be alignment of incentives so that when energy efficiency is being driven and achieved there has to be incentives appropriate to that.

Mr. Upton. I am running out of time, so we have to go fast. Mr. Wells?

Mr. Wells. I will echo what Mr. Campbell says. A lot of us have talked about the energy-efficiency improvements we have done at our companies. The question is, why hasn't that happened in the public sector? It is because we have split incentives. We have to find a way to break that.

Mr. Upton. Mr. King?

Mr. King. Thank you. There are numerous issues associated with rate design. I think the incentive component is critical, as well as there is an ability, through the rate design, to mitigate some of the low-income, low-user impacts. That can be dealt with State by State as we deal with decoupling.

Mr. Upton. Mr. Giudice?

Mr. Guidice. Yes, from my perspective, decoupling is neither the panacea or the cause of what ails us. It is just one of the tools that can be useful, done right, to help make sure we move forward.

And the stimulus bill does not require decoupling, in my read. It requires Governors to assert that they are going to work towards minimizing disincentives for efficiency as well as move to better building codes.

Mr. Markey. [Presiding.] Great. The gentleman's time has expired.

That is an important point that you made, Mr. Guidice, that it is not mandated. Just elaborate upon that for another 30 seconds, please.

Mr. Guidice. Sure. The national State energy officials actually worked with committee members when looking at this issue, because decoupling is a third-rail, hot issue across the country. Lots of different States look at decoupling in different ways. Massachusetts has recently, last year, chosen to move forward with decoupling, and we are going to be looking at our first utility

rate cases in a long time.

And the parameters of looking at those rate cases and how that decoupling is going to be done in Massachusetts, it is going to have all of the normal sort of processes to assure that extraordinary returns are not being generated by utilities. There are protections to make sure that rates are set appropriately.

The stimulus bill recognizes all of the various ways that different States are dealing with this issue and allows for Governors to simply assert that they are going to work towards building codes and towards disincentives -- take away disincentives to maximize efficiency. And there are lots of ways that we can make that happen across the country.

Mr. Markey. Thank you.

Mr. King, Mr. Anderson has raised some criticisms of utility-based efficiency programs, such as those used in Massachusetts, arguing that they are bad for industrial consumers. Could you respond briefly to those criticisms?

Mr. King. We have had great success with our industrial energy-efficiency programs. And a critical component is that we have the consistency and the targets that we set with our State, and then we execute accordingly within the various energy-efficiency programs. So it has proven to be an effective tool for us to achieve our energy-efficiency goals.

Mr. Markey. Okay. Thank you.

Mr. Campbell, you testified that an energy-efficiency

resource standard could create 260,000 new jobs. Can you talk about some of those job opportunities, how they would be created?

Mr. Campbell. We believe those job opportunities get created very quickly, as energy-efficiency projects and energy-efficiency activity starts to increase. Some of the numbers that we see is just for every million dollars' worth of projects, we are probably looking at five to seven direct jobs associated with that activity.

And these are well-paid jobs. I mean, these are things like energy engineers, controls engineers, software engineers, project managers, construction managers, construction crews, technicians, mechanics. These are good, solid, domestic jobs that get created with energy efficiency.

Mr. Markey. Okay.

Mr. King, what is the average rate of return on each dollar you invest in energy-efficiency projects?

Mr. King. Our overall energy-efficiency projects are not the utility investment. It is programs that are funded through our various State programs. And it is the most efficient low-cost investment with other alternatives, because we do view it as a resource. So as you deal with energy efficiency, demand reductions, et cetera, those are the most effective investments from an overall return standpoint.

Mr. Markey. Okay. Thank you.

Mr. Anderson, under my EERS bill, electric and natural gas

distribution companies are required to meet certain energy savings targets each year. Under that bill, utilities could satisfy those targets in part by buying from members of your organization the energy savings that your members achieve at their own facilities, for example, through combined heat and power, waste heat recovery, or other efficiency measures.

In other words, this is a major opportunity for your members to profit through energy-saving projects. Isn't that something that you could actively support?

Mr. Anderson. Mr. Chairman, your bill has quite a few very good things in it. I mean, I compliment you. It goes beyond utilities into building codes. It uses cost-effectiveness throughout the bill. It talks about the need for measurement and verification. It talks about, you know, taking into account weather and the economy and oversight and CHP, as you mentioned.

But the way we look at the bill is, it mandates energy efficiencies across the board. This is probably going to put a layer of cost across the board. Yes, there are some opportunities involved for some manufacturers who might be able to sell through a bilateral contract, which your bill does allow, but it also is going to affect other industrials in a different way.

We think, at least, that industrials, through their competitive forces, have had to implement energy efficiency in a great amount. And we just think they ought to be exempt from the --

Mr. Markey. All right. Let me let Mr. Wells respond to that.

What do you think about that?

Mr. Wells. Could you repeat the question, please?

Mr. Markey. Just respond to Mr. --

Mr. Wells. About the EERS?

Mr. Markey. Yes, please.

Mr. Wells. We have reviewed the bill. We support the bill. When you look at the energy-efficiency opportunity, we look at our own company. It is in line with the performance that I talked about, and it is in line with the opportunities that we see going forward.

Mr. Markey. Okay.

And I will give you the final word, Mr. Guidice.

Mr. Guidice. I think that the bill will actually unleash all kinds of opportunities, in industrial facilities and commercial and governmental facilities. And I am quite excited about it. I think many folks across the country will be able to --

Mr. Markey. Do you agree with that, Mr. King?

Mr. King. Yes. Again, if you go back to some of my comments, our view is this is the foundation of a strong energy policy. And if we can build energy policy on the foundation of energy efficiency as one of the top resources, I think it is the right way to go.

Mr. Markey. Thank you, Mr. King.

The Chair recognizes the gentleman from Illinois, Mr. Shimkus.

Mr. Shimkus. Thank you, Mr. Chairman.

Let me follow up on this. Would anyone who supports the EERS support it without decoupling?

Mr. Guidice. Yes, I would support EERS --

Mr. Shimkus. Without decoupling?

Mr. Guidice. -- without decoupling as a specified requirement, absolutely. But, to be clear, we would require different States dealing with the utility-by-utility issues for that one.

Mr. Shimkus. Mr. King?

Mr. King. We are operating in States that are moving on a progressive path towards sound energy policy, and decoupling is an issue that they are willing to tackle. So we are going forward without it being a part of the --

Mr. Shimkus. So you don't need decoupling to support EERS?

Mr. King. Within the States we are operating in, the States are supportive of moving in the direction --

Mr. Shimkus. Anyone else want to add on to this debate?

Let me follow up on this decoupling debate, because this is pretty telling. Major users were thrown out, but this chart by the Department of Energy that my colleague, Mr. Upton, brought out talks about the additional cost to low users.

Now, I represent parts of 30 counties in southern Illinois.

We wish we had more manufacturing. We wish we had big users. We are producers of electricity through coal and through coal-fired operations. I have talked about that last hearing, where a thousand jobs in my district were lost through the Clean Air Act. I can point to the specific mine, and I showed pictures of that mine in the last hearing. But this is talking about the effect to low users and residential small businesses of decoupling. So I would hope we didn't just disregard this.

And I would want to ask Mr. Guidice and Mr. King, The Boston Globe in an article, January 18, 2008 -- and this is the second paragraph: "Massachusetts manufacturers pay the highest electricity prices in the continental United States, and the gap between their costs and those of competitors in other States is widening, according to the Energy Department. In 2006, the most recent annual data available, industrial users in Massachusetts paid more than double the average U.S. rate, compared to 60 percent more in 2005. Only Hawaii has higher industrial rates."

And you are telling us that that is a standard that we should have? Higher industrial rates?

Mr. Guidice. No.

Mr. Shimkus. The Massachusetts model?

Mr. Guidice. I am not saying that our rates are the model for the country. I would actually love to bring our rates down, and we are working hard to do that -- and our spending down on

energy. And I suspect that the efficiency initiatives that we are taking are the ones that are going to drive that down most dramatically. And, to be clear --

Mr. Shimkus. Let me add to this debate the international scope, because this is really an international debate, and we are competing internationally with countries around the world.

If China and India do not fall into some climate change regime on cap and trade, can we ever compete with them in the manufacturing sector again?

Mr. Guidice. In my view, the world needs to get involved in the carbon issues.

Mr. Shimkus. No, that is not the question. The question is, if China and India does not -- which I believe they will not, based upon discussions I have had with senior Chinese officials -- if they do not, will we ever be competitive in major manufacturing in this country again?

Mr. Guidice. We will have gigantic problems if China and India do not get involved in carbon issues.

Mr. Shimkus. Thank you.

Let me follow up with -- and I don't believe they will, obviously.

Let me go -- Mr. Campbell, this is a great -- in your testimony -- and this is, again, on this decoupling. And you could have been stronger based upon your written testimony, because you say this: "Improving efficiency is good for everyone.

Efficiency improvements not only reduce emissions but also save consumers and businesses money. Energy prices are escalating and would continue to rise with a price on carbon." This is what we say all the time: Energy prices are escalating and would continue to rise with a price on carbon. That is climate change -- putting a price on carbon.

"Energy efficiency will reduce that impact of climate policies on consumers' energy bills. It would lower energy spending for American business large and small, enabling them to better compete in the global economy. Smarter, more efficient buildings not only have lower utility bills" -- and that is the one I want to highlight -- "but also improve health, safety, and comfort."

If consumers do not see lower utility bills by efficiencies, will they move to a new efficiency world?

Mr. Campbell. I would say that for consumers and businesses to take on those energy-efficiency improvement measures, they have to see the incentive. There has to be an incentive for that.

Mr. Shimkus. And just for my Massachusetts friends at the panel, we debated decoupling here in the hearing. And you are correct that the stimulus bill strongly implies for the Governors to move their PUCs to a decoupling regime. And if you followed the debate here, there was no confusion that decoupling is a major issue. And, as we see, it is going to cost individual consumers, and it is not going to provide the incentives for the individual

consumers.

And I yield back.

Mr. Markey. The gentleman's time has expired. The Chair recognizes the gentleman from Washington, Mr. Inslee.

Mr. Inslee. Thank you.

Could the staff put up -- we have a chart with California rates, or California usage. If you could put it up on the screen, please. I just want to make reference to that.

It is a little difficult to see, but I think it does help visually to look at how stunningly different the per-capita usage is in California, which is the lower blue line, and the average per-capita usage of the American, the upper red line, and how they have diverged. And they have diverged in no small part because of some efforts in California to inspire efficiency.

And I just want to note that the numbers are pretty stunning. As a result of that difference, together with the rate structures in California, that has saved Californians somewhere between -- $4.1 billion between 1997 and 2004. And basically it is the difference between a flat per-capita usage in California and about a 40 percent increase per capita in the United States.

Now, as I understand what has happened in California, they have followed sort of a commonsense provision. Their measures they have adopted basically say that if a consumer's energy needs can be met with a 3-cent-per-kilowatt investment in energy efficiency, essentially California has required utilities to go in

that direction, where, instead, a 10-cent-per-kilowatt investment in a new power plant would be an alternative way to go about that.

Now, our efforts in the stimulus bill would essentially, in one way or another, ask utilities to adopt that same type of strategy, which, to me, seems a relatively commonsense provision. If you can achieve your consumers' goals, which is a warm house, with a less expensive investment in efficiency rather than a more expensive investment in power generation, then we want you to go in that direction.

Now, I think the language of the stimulus bill, in fact, meets that sort of goal. And that is why the president of the National Association of Regulatory Utility Commissioners just last week basically expressed acceptance of the language that we put in the stimulus bill.

So I just want to ask Mr. Guidice, if I pronounced your name right, to comment. Is that a fair assessment of what we are doing in that bill?

Mr. Guidice. Yes, that is a fair assessment. And I think it is a good case example of what is possible here for the whole country to move forward with.

Mr. Inslee. Do any of the panel disagree with that assessment?

Mr. Anderson. I would like to add a couple of things to it. I happen to have been looking at the same chart that you have put up there, and just add a couple of things to it.

The vertical line right there -- it is hard to see -- it was 1976. My understanding is that California decoupled in 1982. They got rid of decoupling in 1996. They instituted recoupling again in 2004. They implemented inversed rates -- in other words, the more you consumed, the higher the cost per kilowatt hour -- that I think, at least, went farther than anything else in bringing this about. And I conclude from this, if you have high rates, you are going to have lower consumption.

Now, climate helps too. You know, when you are on the coast of California, you have a wonderful climate. It is truly God's country, and you don't need air conditioning a lot of the time, or heating. So there is a lot of other factors here besides it.

But what my main point is is that business flight out of California has exceeded, I believe, just about any other State for a considerable length of time. And if we, as a society, like that as a model -- high prices, flights of businesses away -- then I think we can get into this.

I don't think this chart, though, tells us that decoupling is good or bad or whatever because it just is far more complicated than that.

Mr. Inslee. So do you have any assessment of -- are you familiar with any studies that have tried to parse out the relative contributions to the California experience?

Mr. Anderson. I don't know of any particular ones, no.

Mr. Inslee. Very well.

Let me ask in general, regarding Mr. Markey's bill, do any of you have any suggestions on changes to the bill, other than what you have already articulated? I just want to give you an opportunity if you have any suggestions for us in that regard.

Mr. Markey, of course, thinks that this is a perfect Mona Lisa, which we would normally start with a presumption in that regard. But I just wanted to give anybody an opportunity.

Mr. Guidice. I would look at even more aggressive targets in the EERS, both on the gas side and on the electric side. I think those are understandable as to those why those are the sets that we are starting with. But I think, as we think about the climate challenges that we are facing and the economic opportunities that we will unleash, that we could ramp those targets up more significantly and quicker.

Mr. Inslee. Anyone else?

Mr. Anderson. We would like very much to see the bill have the ability for industrials to opt into it. Clearly, there are cases where there could be real advantages if an industrial was involved to sell some energy-efficiency savings. But we also think that one size does not fit all, and we think it would be very difficult. So we would prefer to see them excluded otherwise.

Mr. Inslee. Thank you.

Mr. Markey. Great. The gentleman's time has expired. The Chair recognizes the gentleman from Texas, Mr. Barton.

Mr. Barton. Thank you. Thank you, Mr. Chairman. We have go a hearing going on downstairs, too, so I have been running back and forth.

I want to ask Mr. Inslee a question, although he is not on the panel. What is the retail cost of your constituents for electricity in Washington?

Mr. Inslee. Well, that violates the rule against embarrassing any of your colleagues. So I will decline to answer, both because it violates that rule and, secondly, I don't know.

Mr. Barton. Oh. Well, I am not trying to embarrass you. I think it is around 7 cents a kilowatt hour.

Mr. Inslee. I honestly do not know the answer to that question.

Mr. Barton. Okay. It is very low. You have some of the lowest utility --

Mr. Inslee. That is correct. That is correct.

Mr. Barton. What is the average retail rate in California, Mr. Anderson or Mr. Reichel? They have some of the highest rates.

Mr. Anderson. I am sorry, Mr. Barton, I don't know the numbers. I know that it is very, very, substantially --

Mr. Barton. Well, I know in San Francisco their highest rate is 37 cents a kilowatt hour.

Now, spare me the California model -- you know, brownouts, haven't built any new power plants in probably decades; this decoupling, which I am going to ask Mr. Anderson about. I want

the Jay Inslee-Washington State model, Bonneville Power Administration generating clean hydropower because God blessed his region of the country with great hydro resources, and the Federal Government, during the New Deal, built some of the most efficient hydroelectric power dams in the world. So his constituents get power at probably the lowest rate in the country. That is a plus for them; it is not a negative. And I am not trying to embarrass Mr. Inslee at all, because that is just the way it is.

But, you know, this hearing on energy efficiency is a good hearing. I am for what Mr. Markey is trying to do. But don't gag me by saying that we need to emulate the great State of California, who is almost single-handedly doing everything they can to destroy their economy on almost a daily basis and which has the largest State budget deficit in the history of the Nation, $42 billion this year alone. To put that in perspective, the entire budget of the State of Texas, on an annual basis, which is the second most populous State, is, I think, $75 billion.

So, anyway, Mr. Anderson, what is your opinion of decoupling?

I asked Mr. Anderson, but I will let Mr. Reichel answer it if he wants to.

Mr. Reichel. I yield to Mr. Anderson.

Mr. Anderson. As I said very briefly in my oral remarks, and I have much more detail --

Mr. Barton. Oh, I got the nametags wrong. I am sorry. Go ahead, Mr. Anderson.

Mr. Anderson. We are very much opposed to revenue decoupling for a variety of reasons.

First of all, we agree that there needs to be incentives for cost-effective energy efficiency; there is no doubt about that. But trying to pay extra amounts to utilities to have them implemented just doesn't make sense. The dollar that you give to a utility for energy efficiency -- and, remember, utilities don't spend their money; they spend customers' money. So you give a dollar to a utility to implement energy efficiency, they take a sizable portion of that in overhead and whatever else, and then they give what is left back to some customers. This is an income redistribution. It probably doesn't really reduce the disincentive of a utility anyway. Eighty, 90 percent of the utility's revenues are still going to come from generation, no matter what you do.

So we have a whole variety of reasons why we are strongly opposed to revenue decoupling.

I would also like to say that I was surprised to hear someone say that NARUC, the Natural Association of Regulatory Utility Commissioners, supported the provision in the stimulus bill. I was working very closely with NARUC throughout that debate, and I thought that they were opposed. I cannot speak for them, but I think we ought to find out where they stood on the final --

Mr. Barton. Is there a better way to incent a utility to do these energy-efficiency programs than decoupling?

Mr. Anderson. I think a far better way -- if you are going to have a utility involved at all, I think a far better way is to have the utility be basically a tax collector; they collect money from customers however you specify that they are going to do it. And they turn the money over to a third party, whose sole objective is to implement energy efficiency. Their business model is to implement energy efficiency.

I believe Vermont has one, North Carolina has one, New York has one. There is a variety of examples. And we think, at least, that they work a whole lot better than trying to have an interim conflict within a utility. One side wants to sell more power; another side wants to sell less power. And it is an internal conflict inside. Have a business model of a utility to produce and sell and distribute energy efficiently, and have a third party whose sole business it is to implement energy efficiency.

Mr. Barton. My time has expired. Thank you, Mr. Chairman.

Mr. Markey. Great. The gentleman's time has expired.

Mr. Inslee. Mr. Chair?

Mr. Markey. The gentleman from Washington.

Mr. Inslee. Thank you.

Mr. Anderson brought up an issue about the Chair of the National Association of Regulatory Utility Commissioners, and I had made a reference to, essentially, that they had said that they are comfortable with the final product. With your permission, I will put his statement in the record, and I think it will clarify

that. They basically had concerns about the original product. He expressed comfort with the final product.

[The information follows:]

******** COMMITTEE INSERT ********

Mr. Markey. If I may, I am going to ask the gentleman from Texas if he would mind having this clarification be part of a 1-minute extension that is granted to the gentleman from Texas.

Mr. Barton. Sure. Sure.

Mr. Markey. Thank you.

Mr. Anderson, if you want to respond?

Mr. Anderson. Yes, I was at the meetings where they did this, and I didn't understand the final, so I may be incorrect with it. But I know that there was tremendous concern that a public utility commission is supposed to be an independent body. And the way I read the language, the way they were reading the language was the Governor is supposed to be, in essence, trying to tell the independent commission what to do. And they thought this caused tremendous amounts of internal conflict, maybe ex parte kinds of concerns and that sort of thing.

But if I am incorrect, I need to stand corrected. I apologize if I am.

Mr. Inslee. We will just put this in the record and let people draw their own conclusions. Thank you.

Mr. Markey. I thank the gentleman.

The Chair recognizes the gentleman from Vermont, Mr. Welch.

Mr. Welch. Thank you, Mr. Chairman.

Mr. Anderson, I am from Vermont. We do have decoupling, and we do have a separate energy efficiency utility. And they both

seem to be successful. The decoupling was a process that was widely debated with our utilities and worked out. And I want to get back to what we can do and not get just bogged down in whether this question of decoupling should get in the way of an aggressive frontal assault on efficiency.

Mr. Guidice, as a State official, you obviously have some sense of the importance of State autonomy. And some are arguing that setting a Federal floor for building energy efficiency imposes a one-size-fits-all approach that interferes with autonomy at the State level. Yet you are arguing very aggressively for strong Federal building standards. And I want you to elaborate on that.

Mr. Guidice. Thank you.

Yes, it is clear that the market alone is not working on our efficiency around the country. There are market failures. There are market barriers. And so we need to stimulate the right decisions. But it isn't one size fits all. And what does work in the Southeast in terms of windows, as Mr. Upton was speaking of earlier, is different than what works in the Northeast. But that doesn't mean that all of us don't have an opportunity to go much, much more significantly towards energy efficiency. And I do think that this kind of approach, as laid out in the proposed act, will enable us to do that.

Mr. Welch. Okay, thank you.

Mr. Campbell, it is tremendous to hear about the success that

you have had at Johnson Controls. And one of the big dilemmas that we face, and it is being argued here, I think, largely around this question of decoupling is, what is the dislocation that occurs when you go from one energy policy to a new one?

And you have been successful, as I understand it, in achieving efficiency and also creating jobs. And I want you to elaborate on that, in your point of view about how aggressive we should be, using efficiency as a tool to create jobs.

Mr. Campbell. I mean, our view is that energy efficiency is the number-one opportunity for managing emissions, for managing some of the capacity issues that we have on the generation side. And, clearly, energy efficiency creates significant jobs. There is a significant industry behind that. But there are a mismatch of incentives that are out there today.

So, as we look at this, we really do see significant value coming from a whole series of complementary measures that need to be introduced, both around building codes, equipment standards, and also the energy-efficiency resource standards that have been introduced. But, in addition to that, we believe that there does need to be a very clear alignment of incentives for people that are making energy-efficiency improvements on their buildings.

Mr. Welch. All right. What would you say would be the, say, two or three incentive alignments that would be the most helpful?

Mr. Campbell. Well, the first one has to be to save money. I mean, that is ultimately what you want to see with any

efficiency improvement measures, that you have to have a return for undertaking that activity. And depending on the set scale of the return, which can be complemented with specific incentives, depends how deep you can go with an energy-efficiency project.

So you can see energy-efficiency projects without incentives, especially in the private sector, that go very shallow, maybe look at lighting, maybe look at recommissioning, constant commissioning of a building. But to do the deep energy-efficiency improvement measures that go 30, 40 percent energy-efficiency improvement in a building, people have to either have a very long-term perspective on that building or there have to be incentives attached to taking those measures.

Mr. Welch. Okay, thank you.

You know, in Vermont, we spend about a billion dollars a year, which for our small State is a lot of money, on energy that is money that goes straight out of the State. A lot of interest in doing combined heat and power or other means of local generation of electricity, in order to keep that energy dollar recirculating as much as possible in Vermont.

Mr. Wells, what specific things could we do, as you see it, to encourage local generation of power, to keep those dollars at home?

Mr. Wells. When you talk specifically to combined heat and power or cogeneration, it is finding a means to utilize the waste heat that comes off power generation. Today's power generation,

pulverized coal efficiencies are in the high 30s, and some of the cogeneration units that we run are in the high 70s, if not approaching 80, because of our ability to capture that heat. We have a ready heatsink right there to use it. So, distributive heating, finding a way to take the heat off of a power plant and using it to heat homes in a neighborhood or in some sort of way, or finding an industry that needs that heat and coupling that up with a power plant. When electricity is sold on the grid, the heat is used.

The problem is, heat can't be transported like electricity can. So it has to be something local, it has to be something distributed right nearby.

Mr. Welch. And then, how do you deal with the impact that it has on the local utilities that would potentially lose customer base or lose revenues? And anybody on the panel can answer that.

Mr. King. Just to put a couple of things in perspective, first of all, when you look at the total energy bill, both the transmission and distribution costs and other key important programs are basically at inflation or below. The bigger problem is the energy costs. And what we need to do is focus on how can we most efficiently reduce consumption and help reduce those overall energy costs. That is the fundamental driver on why bills are the way they are.

Mr. Welch. Thank you. I think my time has expired.

Thank you, Mr. Chairman.

Mr. Markey. The gentleman's time has expired. The Chair recognizes the gentleman from Oregon, Mr. Walden.

Mr. Walden. Thank you very much, Mr. Chairman.

Mr. Campbell, as you know, in my opening remarks I cited the comments in your testimony. And I apologize for having to leave to go to the Communications Subcommittee, so you may have addressed this. But it appears to me that you are arguing against decoupling in those comments, because you are saying that "energy prices are escalating and would continue to rise with a price on carbon. Energy efficiency will reduce the impact of climate policies on consumers' energy bills. It will lower energy spending for American business."

You talk about doing all these controls to lower energy bills on consumers as a good thing, as an incentive, I would assume, to do energy conservation. I mean, you know, I think the average person in my district says, "Gee, I want to cut my costs. My budget is constrained right now. I am afraid of losing my job." They are not going to be really excited if the State moves forward on decoupling and says, "Yeah, you do all that stuff. But, oh, by the way, you are going to pay the same amount."

Isn't that really what happens under decoupling?

Mr. Campbell. Yeah, I mean, I am not arguing against decoupling, but I am arguing for energy efficiency and ensuring that there is aligned incentives associated with those energy-efficiency measures to drive energy efficiency so we bring

true economics to the consumer or the business so they can make smart decisions.

Mr. Walden. All right.

Mr. Anderson, let me go to you, because it seems to me, from your testimony, you would be arguing against decoupling. And I don't know what the -- it seems to me it is a really perverse incentive to tell businesses -- and I was a small-business owner for 21 years -- that you use less, pay the same. I don't know how that is going to help our economy.

Tell me the stimulative effect on a small business by having them pay the same utility rates because they conserve their energy consumption.

Mr. Anderson. As I have said earlier today also, I agree with you completely, and it is a disincentive. We also look at it for, why are the utilities guaranteed anything? I mean, my members right now would love to be decoupled from their customers. I assure you, my auto companies today would love to be making the same amount of money that they used to make.

Mr. Walden. You know, I was in the radio business for 21 years, small-market radio stations. And I always thought it would be great for every time we didn't sell an ad and had time to run it that, you know, maybe we should have gotten paid. That would be the ultimate form of decoupling. My sales people would have loved that, too, I suppose. But it is not the way it works.

Mr. Anderson. Correct.

Mr. Walden. It is not the way it works.

Mr. King, I noticed in your testimony that you congratulated the Congress for passing the stimulus with $3.1 billion in State matching grants for energy efficiency and assistance for low-income consumers to weatherize their homes.

Won't low-income consumers be hurt, as well, if they do all this weatherization and the utility company comes back and gets to charge them the same amount?

Mr. King. The intent behind the low-income consumer program will be to ensure that we are doing what we can to reduce their overall energy bill. And all that goes into how overall rates are --

Mr. Walden. And who pays for that subsidy to the low-income energy consumers who have reduced their consumption because they have taken advantage of weatherization, of which I am a big advocate of, who subsidizes them? Where does that money come from?

Mr. King. All of those types of decisions are rolled into the overall rate design. And our customers, as a whole, as a community, support those kinds of programs.

Mr. Walden. Now, "community" is a wonderful term to use. But, at the end of the day, it is everybody paying their power bill, right?

Mr. King. That is absolutely --

Mr. Walden. Do higher power rates affect the economy?

Mr. King. No, they don't. That is a cost of living and doing business.

Mr. Walden. Have you ever been in small business?

Mr. King. No, I have not.

Mr. Walden. I have. And I have to tell you, in the radio business I did everything I could, as I could afford to, to replace old tube-type transmitters with solid-state ones so I could cut my energy bill, be more efficient. That savings amounted to something in my bottom line.

Mr. King. I can understand that. And we have spent a tremendous amount of time with our customers trying to find ways to help them reduce it.

Mr. Walden. But how can you say that the higher energy costs don't affect the economy? I am struggling here.

Mr. King. I don't think I said that. I think I said, yes, I understand how it impacts the economy. And it is part of living within a certain area and trying to help manage overall energy bills on a day-in, day-out basis.

Mr. Walden. But don't you think the best incentive is the good old marketplace that says, if I can cut the use of my power, I can save myself a little money and put it towards something else?

Mr. King. That is exactly what energy efficiency and demand reduction is about.

Mr. Walden. It is, except when you add the decoupling to it

that says the utility gets to charge me the same amount regardless of how much I save.

Mr. King. Decoupling doesn't necessarily equate to that sentence.

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[11:36 A.M.]

Mr. Walden. What does it equate to then?

Mr. King. The overall issue that we are trying to deal with from decoupling is to make sure that we understand the cost to deliver the energy and that we have the ability to recover those costs. That is it.

Mr. Walden. Which is why the utilities love decoupling.

Mr. King. The overall issue with why we support decoupling is to make sure that, again, as you heard from the panel today, is the incentives are aligned and we are making sure that we are doing what we can to support the policy to reduce energy demand.

Mr. Walden. I wish we would have had a single hearing on this issue as it was related to the language in the bill that everybody voted on and very few got a chance to read in advance. I am trying to figure out now what this language that is now law means in terms of assuring that the governors get assurance from their PUCs to implement it.

I know my time has expired. Thank you.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from Texas, Mr. Gonzalez.

Mr. Gonzalez. Thank you very much, Mr. Chairman.

I guess I should start off with my own observation of Texas government and Texas budget as compared to California. I am not

here to defend California, but, by the same token, I know how State governments can save a lot of money.

Texas has been able to do it by simply not investing in infrastructure, on maintaining what they have and making no real investment in health care and education. You can save a lot of money that way. There is a greater price down the road, and I believe that my analysis would be supported by any study of what Texas has done in the past few years.

As we go through this debate today, you would think that we have made some real progress. Because you think in terms of the first year of the Bush administration in 2001 -- and I know it is getting into the partisan, but let's figure that we made some progress.

Because, in 2001, it was Vice President Cheney who commented on efficiency and conservation that conservation may be a sign of personal virtual, but it is not a sufficient basis for a sound, comprehensive energy policy.

I think we all acknowledge today -- even my colleagues on the other side of the aisle -- that conservation efficiency does in fact have a place in the overall energy policy of this country. At least that is what I am hearing. I have heard it referred to as not necessarily the fifth fuel but the first fuel. I have heard it as being one of the legs of the three-legged stool and so on. But what I am really hearing here is that we acknowledge it is out there, its value, but it can't be done, whether we say it

is about decoupling or are talking about exemption for the industrial sector and so on.

So, on one hand, I think we recognize certain things like, well, we recognize that global warming is real, but I am not real sure that we can do anything about it. But at least we have the acknowledgment. So I feel hopeful that we have finally acknowledged a fundamental fact, and we move forward.

The question to the panel, and I am going to ask Mr. Anderson, during your testimony, I wasn't real sure if I heard you correctly about an industrial sector exemption. Is that what you stated?

Mr. Anderson. In Mr. Markey's bill, that is what we were suggesting, yes.

Mr. Gonzalez. All right. And do you wish to elaborate at all? Because I am going to ask the other witnesses to comment on that proposal and what they believe might be the impact.

Mr. Anderson. Our companies operate in worldwide competitive markets; and the tremendous competition requires them, we believe, to implement cost-effective energy efficiency already. And we are concerned that if another layer gets put on top of that, it adds another layer of cost while doing more on the energy efficiency is quite difficult. So we are asking that industrials have the option of opting in if they want to be but otherwise being left out of the Federal mandates.

Mr. Gonzalez. I think our industrial base does operate at a

terrible disadvantage with other countries. India and China, of course, come to mind. The problem is we are not India and China, and much of our progress was based on some pretty bad experiences, and it doesn't mean that we continue or revert back to practices that should have been unacceptable under any circumstances.

I do not want to go too far back, but let's go back to child labor and working conditions and such. That will give us a tremendous advantage. Maybe we will be able to compete with practices in other countries. I don't think we do that.

When it comes to global warming and practices, I think there is a certain responsibility not to sink our economy but to do the responsible thing. I am not you are sure if you say it is a moral imperative and all that. Look, this is the real world. My constituents want jobs and a quality of life, also. So it does not fall on deaf ears.

But I am not sure if you are advancing an argument that simply says we just can't do it under the present economic circumstances and we never will be able to do it. But let's just talk about the exemption. Is that a viable choice? Is that something Mr. Markey should be considering?

And I will ask the other witnesses to make their remarks and to address that particular statement by Mr. Anderson.

Mr. Wells. I think when you look at competitive that is a very good point; and in my case the competition is not labor cost, it is energy cost. So we are competing with places like the

Middle East, where they can get natural gas out of the wellhead for a dollar BTU. And as recently as last summer we were paying $14 for that same.

For this reason, we have done sort of the efficiency improvements that I talked about, 1,600 trillion BTUs that Dow Chemical saved since 1994. And for this reason the opt-out may make some sense. Because we have done a lot of things that are out there, and for us to go the next step gets us out of what would be defined as cost effective and into much more costly.

However, having said that, having looked at the bill and looked at the numbers, at least for our particular company, we feel the bill as introduced is something we can live with.

Mr. Campbell. Let me just add to that. With the targets within the bill I would concur. Personally, on behalf of the company, I believe we need to get serious about energy efficiency; and having exemptions is not getting serious about energy efficiency. I think the numbers are very attainable from all businesses, and I think that it really is a significant opportunity to drive competitiveness of our industrial base, to get more competitive in relation to energy efficiency and energy consumed.

Mr. Giudice. I strongly support no opt-out for anyone. We are all in this together, and there is opportunities for all of us to do so much more.

In Texas, the PUC there in the State energy offices recently

looked at the efficiency potential in Texas and determined there is upwards of 20 plus percent of reduction of energy consumption possible and the economy would grow without any shrinkage. It would grow jobs in Texas by reducing energy consumption by upwards of 20 percent.

Mr. King. Our industrial base is very interested in finding every way they could to reduce their energy consumption. We spend a great deal of time with them. We have had great success in reducing the overall energy consumption; and if we set goals and objectives in this bill, we need to find every way we can to achieve those goals and objectives. I would highly recommend that we stay with as large of a market impact that we can to ensure that we are achieving the efficiency goals.

Mr. Gonzalez. Mr. Reichel -- is that correct? The pronunciation?

Mr. Reichel. Yes, sir.

As my expertise here today is pretty much with energy, once it is inside the building I would support anything that we can do from the energy efficiency side on the outside of the building.

Mr. Gonzalez. Thank you very much.

Yield back, Mr. Chairman.

Mr. Markey. The Chair recognizes the gentleman from Louisiana, Mr. Scalise.

Mr. Scalise. Thank you, Mr. Chairman.

Mr. King, in your testimony that you submitted, I think on

the first page, you talked about the various strategies that you embrace; and I think your comment was we need law. And I agree with that. I know a lot of us last year in the big energy debate we were having in Congress proposed an all-of-the-above strategy, which encompasses efficiency conservation but also production and natural resources as well as renewables.

One of the things -- and we had this debate on the stimulus bill -- that we consider a renewable option is nuclear power; and there was an attempt to include nuclear power, which has no carbon emissions, in that renewable definition. Unfortunately, that was an unsuccessful attempt.

Do you support including nuclear power in that we-need-it-all strategy that you envision in your testimony?

Mr. King. I think it is important that we look at all the alternatives.

Mr. Scalise. And consider that as one of the alternatives.

Mr. King. So it is important that we look at all the alternatives and make sure that we understand and have a comprehensive view of the national energy policy.

Mr. Scalise. Clearly, many other countries are already pursuing that in a very aggressive way; and our country seems to be lagging behind. Hopefully, that changes as the technologies advance. It is clearly working well for many who are using it. So I appreciate that.

Mr. Wells, in some of your testimony as you talk about

natural gas prices and the effects -- and, obviously, we have some large facilities with your company and others in south Louisiana -- as gas prices increased, it had a stifling affect on growth in the industry. As companies are trying to be more efficient -- and, of course, the biggest incentive is the profit incentive, and there is a profit incentive to be more efficient.

But as you squeeze efficiencies out and then you get to a point where decoupling and other things would potentially increase rates for those who have done all they can -- in terms of job losses, every time you have a 1 percent increase in natural gas prices, for example, what does that mean in terms of your ability to continue keeping the people employed that you have employed, looking at moving more operations overseas? How many jobs are lost for every 1 percent increase in natural gas prices?

Mr. Wells. I don't have the number for the 1 percent, but the chemical industry in the last 8 years we have lost over 100,000 jobs in this country in large part due to what has happened in natural gas pricing, where we were in an area where we paid a pretty constant price in this country and we built a large chemical infrastructure around that and became an export base for much of the world. When natural gas did what it did in the late '90s and the early part of this decade, then we started looking for other, cheaper sources and found them. My own company, we are looking at building plants in Saudi Arabia, places like Libya, Egypt, because we can get that very cheap feedstock.

It is important to know for the chemical industry natural gas is not just a source of energy. We don't just burn it in a turbine and just combust it to make steam. We also use it to make our feedstocks.

I talked about in our company alone the bill last year was over $27 billion for our energy costs. Not only do they rise because of increasing demand and supply that is starting to fall off -- we have seen some new discovery that has helped, but we think that just at best will delay the inevitable. But we also when we think about the climate change and what could happen with climate change and climate legislation, which we support, the easy answer is to go to natural gas for power generation and to combust natural gas over coal and lead to this dash to gas which could even further exasperate the situation.

Mr. Scalise. I just hope as we go forward we -- a lot of us have concerns about exporting jobs overseas and job losses. You talk about 100,000 jobs lost, in a way, because of a failed energy policy. I just hope we are very cautious in how we proceed, that some of the things we do, where we all agree that efficiency is important, where we don't have penalties on the other side that actually cost us more jobs. And your industry is a good example of there is a point of, if you exceed that level, your ability to continue employing the people you have is going to diminish.

So, hopefully, we keep all of that in mind as we entertain legislation to address the concerns that I think a lot of us have.

But how we get there, we have to be cautious that we don't have those consequences which I don't think would be unintended, because we are well aware, as you point out, that those have direct impacts on businesses' ability to continue operating profitably here or looking at other options in other countries which have definitely been taken by companies over years and hopefully won't in the future. And, hopefully, we won't do anything in this Congress that encourages people to move those jobs overseas.

Thank you.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from Texas, Mr. Green.

Mr. Green. Thank you, Mr. Chairman.

And it is interesting I follow our new colleague from Louisiana, because I have a district in Houston that -- I have the petrochemical complexes there. When you talk about losing jobs because of the high price of natural gas, we have seen that in our district, and particularly in the recent with our own economy with what is happening. Because a lot of the things our chemical industry does actually goes into home buildings for weatherization and things like that. That is why this last bill was a success, I think, to try to do some of the things that we want to do.

I want to follow up on that line of questioning, Mr. Wells. I know Dow Chemical is a member of the U.S. Climate Action Partnership. Like I said, your biggest plant in my area is in

Freeport. It is not in our district. But I have Channelview, Houston and Pasadena, so I have a number of your facilities.

In your testimony, you mentioned that one of the likeliest ways to meet short-term carbon emission reduction targets called for in climate changes that fuel switching from nat coal to natural gas. And, again, with my accent, you would think I would love natural gas. And that is not a problem. It is just that in the chemical industry it is not only a fuel but it is a feedstock, and that is what caused us to lose those jobs.

I can tell you 3 years ago Shell Chemical moved jobs from Deer Park, Texas, in my district to the Netherlands for two reasons. The price of natural gas in the North Sea was cheaper, but also the price of health care for the Netherlands was cheaper per employee than their plan in Deer Park. So our committee has jurisdiction over both of those; and, hopefully, we will make it a little more competitive.

But the so-called dash to gas could be ruinous for the industries that are dependent on it, like the chemical industry. So I have significant concerns about any impact the climate change would have on affordable and reliable supplies of clean natural gas.

I have to admit even in Washington we see Boone Pickens ads. If we all did what Boone Pickens wanted us to do, not only with wind and solar but natural gas, we might not be having this concern.

Since I represent a great deal of the manufacturing facilities, Mr. Wells, do you believe that enacting energy efficiency measures would be enough to offset the job losses in particularly your manufacturing sector due to the increased demand for natural gas from the fuel switching?

Mr. Wells. No, there would not be enough. They are an important step. They are an important easy step, an important economical step, but we have to go further, and we have to look at increased supply, what we can do to get more supply in a situation.

We have to manage both sides of the supply and demand equation. We have to manage demand by the efficiency measures and other complementary measures we talked about today. We also have to manage the demand side and make sure the country -- we can get at the source of natural gas and oil that we have available. We are the only country in the world that is not allowed to look for our own resources right off our shores.

Mr. Green. The last Congress made exceptions, and we took off the moratorium on Outer Continental Shelf drilling. There may be some adjustments to that, and we don't want to drill in national parks and sanctuaries and things like that, but there are areas that we can get natural gas.

Natural gas is site based. Dow put in an LNG facility in Freeport, but that is not the way to solve the problem. We really need to have it much closer. You can pipeline it closer, because

the cost gets so extravagant.

Mr. Wells. We didn't put it in. It is another company that put it next to ours, and we are a user to clear that up.

Mr. Green. You probably wouldn't be there without Dow in Freeport. In fact, in the 2005 energy bill, Congressman Terry and I both championed that we would import natural gas when possible. But that is not our solution, either.

What design elements for a cap and trade program where there is reduction of targets and timetables or cost containment mechanisms or complementary policies would be most effective and lessen the impact of fuel switching? Does Dow have --

Mr. Wells. Absolutely. As a member of U.S. CAP, they recently came out with their blueprint for legislative action. In there it talks about complementary measures for coal, complementary measures for transportation, things we would like to see. Certainly carbon capture and storage. The ability to continue to use coal in a responsible way will would go long way to keeping the dash for gas.

What will happen if we don't do something like that, natural gas becomes the bridge as we invent the carbon free energy infrastructure. That will take time, and to bridge that time the easy choice is to go to natural gas. It creates half the amount of CO2 as coal does in a power generation situation, and our industry cannot afford for that to happen because of what I talked about.

Mr. Green. Also, when you happen -- and carbon capture and sequestration, that will help, particularly with coal. I know from your response to the earlier question about nuclear power, again, that is 15 years away, if we are lucky, maybe 12.

Mr. Wells. We certainly think nuclear is part of it, both the traditional light water reactors and next generation, the high temperature reactor. We see lots of potential -- although technology has a long way to go, lots of potential for that also to come to bear.

Mr. Green. Last year, the natural-gas-council produced a model that predicted demand for natural gas to increase by as much as 10 trillion cubic feet per year under climate change legislation.

The first question is, even with measures to increase energy efficiency, do you believe it is still necessary to increase environmentally responsible reduction of natural gas, domestic natural gas supplies in order to meet short-term carbon reduction targets called for in the climate change legislation and to keep those good-paying manufacturing jobs in the United States?

Mr. Wells. Yes, absolutely.

Mr. Green. Could congressional efforts to hinder the domestic production of clean natural gas inhibit the U.S. from achieving the short-term carbon reduction targets while protecting our manufacturing base?

Mr. Wells. Yes.

Mr. Green. So it is compatible as a member of both U.S. CAP to be a supporter of efforts to reduce carbon emissions as well as the increased domestic supplies of clean natural gas?

Mr. Wells. Yes.

Mr. Green. Thank you.

Dr. Anderson, you mentioned the importance of utilizing combined heat and power technologies and petroleum chemical industries expressed disappointment with FERC's recent rulemaking regarding incentives for CHP as called for under the Energy Act of 2005. Can you further elaborate on why you believe that rulemaking would discontinue CHP incentives in certain FERC-approved regional transmission organizations?

Mr. Anderson. The FERC order rule that came out basically said that the PRPA incentives granted in 1978 for combined heat and power for cogeneration would go away in those markets that FERC has approved as being an RTO or an ISO. That is an independent system operator or a regional transmission system. So in those areas, which covers a significant portion of the country, the incentives that have been there since 1978 are going away. A utility can simply file with FERC and ask that they go away, and they are beginning to do that.

We did not think that was the intent of the Act in 2005. In fact, we worked with Representatives Barton and Boucher and others when that language went through. And so what we are asking is that you all take another look at that and see if this really was

the intent. We at least believe, as manufacturers that do a lot of cogeneration, that it is a big detriment.

Mr. Green. Thank you, Mr. Chairman. I know my time has expired.

I appreciate that. I know that wasn't the intent in 2005.

Mr. Anderson. Thank you very much.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes Ms. Baldwin.

Ms. Baldwin. Thank you.

Mr. Green's questioning dovetails well with the direction I want to go in.

In my opening remarks, I cited the December Oak Ridge Natural Laboratory report stating the manufacturing facilities and commercial buildings are sources of waste energy that can be captured and converted into useful electricity and steam productions.

Further, it said that waste energy recovery is one of the most promising options in the U.S. energy efficiency portfolio and that if the U.S. adopted a high deployment strategy, combined heat and power development could generate $234 billion in new investments and create nearly 1 million new high-skilled technical jobs throughout the country.

The report goes on to say that the U.S. could avoid 60 percent of potential growth in greenhouse gas emissions between now and the year 2030 if we increase the amount of electricity

produced from distributed energy sources from 9 percent today to 20 percent by the year 2030. We have had some questioning about this, but I would like to, with this potential out there, sort of have a little bit more of a discussion about the various incentives and barriers, the regulatory environment, as we just talked about, the technological hurdles and cost.

I guess I want to start in with cost. There was some testimony suggesting that this isn't cost effective but cost prohibitive. I have certainly heard from many industrial waste experts, waste energy experts, who say that much of the technology is readily available without further R&D. Required heat exchangers, turbines, piping are all off the shelf, not requiring additional R&D. And that there are other things that create hesitation in making investments in the industry sector.

I guess, to Mr. Wells and Mr. Anderson, if you might comment first on the cost barriers and additional incentives that we could be looking at.

Mr. Wells. I can only speak for the industrial sector and for our own, and we don't see any cost barriers for the Dow Chemical Company. A vast majority of the power that we use is self generated, well over 70 percent; and of this power well over 90 percent comes from cogeneration. So in our application it makes a lot of sense, an awful lot of sense for us. We make maximum use of it.

Mr. Anderson. First, I am not familiar with the studies. I

apologize for that. But one of the big barriers to cogeneration is the ability to get backup maintenance and standby power. If your generator does go down, you have to buy in a non-discriminatory way. We are concerned that when the incentives of PRPA were taken away that has taken those things away, and that is why we are asking that you look at those things again.

I agree that there is a tremendous potential for combined heat and power. I am not as familiar with distributed generation. It is much smaller and applies to commercial and residential entities. But I understand that there is a potential there, also.

Ms. Baldwin. Let me follow up on that answer.

In designing the Energy Independence and Security Act, I know that I worked with energy efficiency experts in my own district to craft the waste energy incentive grant program really to incentivize owners and operators of industry facilities to successfully produce electricity from recovered waste energy. Specifically, it provides a financial incentive of $10 per megawatt hour; and it is authorized at the $200 million level, although not yet appropriated. Is this in your mind sufficient financial incentive from manufacturers to invest in capturing waste energy and converting it to useful energy?

Mr. Anderson. We are strong supporters of the program. I can't say whether that is sufficient or not, but it is definitely a significant step in the right direction, and I hope the money does get appropriated. As you said, it has not been appropriated

yet. We have been working with the Department of Energy as they are trying to implement this, and we think it is a great idea.

Ms. Baldwin. I recognize there is controversy over whether manufacturers should be able to convert waste heat to energy and then sell any excess back onto the grid. How essential is the ability to sell excess energy to the success of harnessing waste energy -- industrial waste energy?

Mr. Anderson. I think it varies significantly by application, by industry, even down to the individual plant.

Mr. Wells just mentioned they consume most of the power that they consume, and that certainly is a model that many others use, but others have the opportunity to produce more power than they can consume. And you have to be able to sell it at a price that makes sense.

Once again, it gets into the review of it, but that is an important area for many applications.

Ms. Baldwin. Mr. Wells.

Mr. Wells. When you look at how we use cogeneration, that is a very important thing for us. Because we balance on steam. We make all the steam we need; and then whatever power that comes along through the cogeneration process, if it is more than we need at a location, being able to sell on the grid is very helpful to us. If we don't make enough, being able to buy off the grid is helpful to us.

Mr. Markey. The gentlelady's time has expired.

The Chair recognizes the gentleman from Utah, Mr. Matheson.

Mr. Matheson. Thank you, Mr. Chairman.

One observation before I ask questions.

As I listened to the discussion on decoupling that was taking place, whether people think they are for it or against it, I detected a lack of understanding about it during this discussion. I heard people comparing decoupling issues relative to regulated utilities with how it applied to private-sector competitive businesses. I sense the discussion, quite frankly, diverted into a lot of extraneous issues that weren't relevant; and so it may be helpful for members of this committee to get a primer on decoupling and what it means and what it doesn't mean. Because, as I said, as I listened to that discussion I think there was a lot of confusion, a lot of apples and oranges comparison that were not necessarily appropriate or productive to the conversation.

Mr. Markey. I think that is a good idea. Thank you.

Mr. Matheson. I want to address the issue briefly of appliance standards in the Act that was developed between the House and the Senate. The House version in 2007 had some provisions that allowed multiple efficiency standards for a single appliance. During the conference negotiation in the Senate, some of the provisions were dropped. Anyone on the panel, I would like to ask what room you think there is for further improvement in energy efficient appliances regulations.

Mr. Giudice. Gigantic room for improvement. We are

consuming electricity in devices that are not producing any useful product for us. Our set top boxes, TVs that are on standby, plug power, vampire power in our homes is consuming 10 or 15 percent of the electricity that our residence is consuming for no useful output. There is technologies off the shelf that once we put them in place can go back down to 1 watt standbys on all those devices and still come alive at 4:00 in the morning when you want to record a show if need be. We just haven't spent enough time on those matters across the board.

As we look at it in Massachusetts, and we have seen similar studies across the country, just taking energy efficient devices off the shelf that exist today, ENERGY STAR and better, and putting them in across the Nation would save on the order of 20 or 25 percent in our residential electricity consumption. So tremendous opportunities. We haven't unleashed all the potential from design and marketplace to really drive that. And I would call for very high standards.

Mr. Matheson. All right.

Mr. King. The other element I would add is we need to also think about the future as we deal with intelligence on the grid, smart meters, et cetera. If we could start developing the standards for appliances where we could automate demand reduction, energy efficiency, et cetera, it will have a significant impact when you have a broad-scale deployment of energy efficiency in those appliances.

Mr. Matheson. I think being forward looking makes some sense.

Currently, the law does not allow for use of multiple standards for appliances like if you have a dual electric gas furnace. Are those changes Congress ought to be looking at try to create some of those multiple standards?

Mr. Giudice. Yes. I think we have to look at all the standard setting very differently than we have to date. SEER rating standards on air conditioners are seasonal electricity consumption, not peak electricity consumption. Some of the air conditioners actually have a small compressor that when it gets really hot it is very inefficiently producing that cooling to kind of boost it. It looks like a good SEER rating, but it actually hits us the hardest on those peak days when we are trying to meet the electric load. So looking at the standard setting and doing it on a very accelerated time path I think is very appropriate for national attention.

Mr. Matheson. The committee learned in 2007 the DOE process for appliance standards takes a long time. And other countries such as Japan use a top runner program where the standard is updated every 3 years based on the top technology at the time. That technology becomes a standard for the next 3-year period. My question is, is this type of model realistic for the United States and how do we address concerns that manufacturers may express about making that a challenging time frame for them to adopt new

standards? Any thoughts on that?

Mr. Giudice. I am a little familiar with the program in Japan, and I think it is a very interesting model. I think it stimulates innovation and creativity in their design, and I think it would do the same here. I think that we have been so comfortable in our absence of attention on this and our manufacturing folks have not spent sufficient attention to these matters that any kind of a change to a new regime is really hard, and so the initial reaction is to resist it. But I think working collaboratively, under very clear deadlines and very clear outcomes, that we could get to very similar models; and it would be beneficial to all of us.

Mr. King. Just to quickly add to that, the opportunity that the bill provides us is a Federal standard. So once we have absolutely set that target, then you'll get a lot of expertise to jump in and help move to help not only from a State standpoint but over from a Federal policy. So that is a big opportunity you have as you debate the bill and support it.

Mr. Matheson. Thank you, Mr. Chairman.

Mr. Campbell. I would add a comment. I think aggressive standards drive innovation; and they also ultimately help with manufacturing scale, which gives us more cost-effective appliances going into the market.

Mr. Matheson. Thank you. I yield back.

Mr. Markey. The gentleman's time has expired.

Here's what we're going to do. We will give each one of you one minute to tell us when you want us to remember from your testimony. What is your highlight? What is your takeaway message? What is it that you want us to be factoring into the development of energy and client change legislation this year in terms of efficiency?

We will begin with you, Mr. Reichel.

Mr. Reichel. Thank you, Mr. Chairman.

I don't want you to remember me for my expertise on decoupling.

Mr. Markey. It is the joke of the day. Though. Well done.

Mr. Reichel. Our technology that we have brought before the panel today and the committee works with every control system and every HVAC system in the country. I would encourage this committee to set up a performance efficiency standard. For every building has different controls and different HVAC systems, but they all have an operating strategy. Building performance software can help these buildings calibrate the buildings to actually achieve that energy efficiency goal. This was probably one of the last bastions of energy efficiency available in operation and maintenance. The Federal buildings I would encourage as strongly. We are working with the GSA, but I would encourage them, because private practice will follow what the Federal buildings do.

I would also look at setting this for schools. There is $13

to 15 billion of savings if we did this across the country. I think it is very important, and I commend you for your work here.

Thank you.

Mr. Markey. Thank you very much.

Mr. Anderson.

Mr. Anderson. I just hope that you will look very carefully at what the impacts of whatever you do will be on the manufacturing community. Nearly every one of these proposals will raise rates that we see. Some will bring about lowering consumption; and if the two offset, then that is great. But have a very realistic look at what it is going to do to the manufacturing community. Because many are right on the edge, and they are going to close the plant here. And they are not going to reopen it here but somewhere else.

Mr. Markey. Mr. Campbell.

Mr. Campbell. We do believe that energy efficiency should be considered the first fuel, because it does save consumers and businesses money. And we do have the technology available, widely available today to deliver energy efficiency. We don't believe there is a silver bullet to energy efficiency. We believe there is silver buckshot. There will be complementary measures like the ones we have been discussing this morning, and they are going to give us the opportunity to drive energy efficiency to the level that I think as a Nation we need to drive it.

I think that energy efficiency is the most important thing

that we can focus on when it comes to climate change. We need to make sure that there is alignment of incentives from the utilities to the users of energy. And I don't think it has ever been more important. We have to focus on it now.

Mr. Markey. Mr. Wells.

Mr. Wells. When we think about the triad of economic success and environment performance and energy security, energy efficiency hits the sweet spot of those three things. It is a win-win-win. So why aren't we doing more of it?

We talked about the barriers today. It is clear we need a nudge or a push of some sort. So the complementary policies that we talked about today can form this nudge, give us the push we need to do the right thing with respect to energy efficiency and to help our economy.

Mr. Markey. Thank you.

Mr. King.

Mr. King. I would start with energy efficiency is a resource, and it is a critical resource to meet America's overall energy needs. Secondly, that it is one of the least expensive investments that we have as an alternative to us. So we should be aggressive both on the targets to achieve as well as the time lines to achieve them, and we stand ready to help deploy and deepen its impact.

Mr. Markey. Mr. Giudice.

Mr. Giudice. I encourage the committee and Congress and the

administration to be very, very bold at this time. I cannot imagine but I suspect that decades in the future we will be looking back and wishing we were bolder about what we will be accomplishing right now. And I thank you for your leadership on these matters.

Mr. Markey. Thank you, Mr. Giudice; and we thank all of you. Just an excellent panel today.

I just want to, in closing, say that there has been a lot of talk this morning about the stimulus bill and decoupling; and it was raised by Mr. Matheson as well. So I just thought I would read the language from the stimulus bill so that people can hear it and it is on the record.

What it says is that, as enacted, the language requires the Governor of a State, as a condition for receiving the allocation for State energy program funds, to notify the Secretary of Energy, "in writing that the Governor has obtained necessary assurances that the applicable State regulatory authority will seek to implement in appropriate proceedings for each electric and gas utility with respect to which the State regulatory authority has rate making authority, a general policy that ensures that utility financial incentives are aligned with helping their customers use energy more efficiently and that provide timely cost recovery and a timely earnings opportunity for utilities associated with cost-effective, measurable and verifiable efficiency savings in a way that sustains or enhances utility consumers' incentives to use

energy more efficiently."

The language does not mandate decoupling. It simply asks States to pursue policies to align utilities' initiatives with the pursuit of efficiency while insuring that consumers have incentives to pursue efficiency as well. NARUK does support the final language, and there are many ways to satisfy this requirement. It does not require decoupling and allows States to innovate in order to protect their own consumers.

So I thank the panel very much for being here today. It is incredibly helpful.

Unfortunately, historically, this subject and its discussion is only exceeded by watching grass grow in terms of the level of enthusiasm that it brings to a room. But, as you are all saying, it is the sweet spot. It is the first fuel. It is the whole key to how we can put a dent in climate change and energy industry issues and economic growth simultaneously. It is important for us to ensure that this year we put the laws on the books that telescope the time frame it will take for us to reach that day.

We thank each of you for being here today.

This hearing is adjourned.

[Whereupon, at 12:16 p.m., the committee was adjourned.]